

Insert picture: A family sitting down to eat a healthy meal together OR someone shopping at a farmer's market

Insert picture: A woman breastfeeding

Insert picture: Kids playing outside (the opposite of kids watching TV)

Insert picture: Older adults in a yoga class OR people at the gym OR people walking

DRAFT

Rhode Island's Plan for Healthy Eating & Active Living:

2005 – 2012

Rhode Island Department of Health

Initiative for a Healthy Weight

October 2005

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REVIEW DRAFT

Rhode Island Department of Health

Initiative for a Healthy Weight

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Suggested citation: Rhode Island Department of Health. *Rhode Island's Plan for Healthy Eating and Active Living, 2005-2012*. Providence, RI: Rhode Island Department of Health, 2005.

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Many people believe that dealing with overweight and obesity is a personal responsibility. To some degree, they are right, but it is also a community responsibility. When there are no safe, accessible places for children to play or adults to walk, jog or ride a bike, that is a community responsibility. When school lunchrooms or office cafeterias do not provide healthy and appealing food choices, that is a community responsibility. When new or expectant mothers are not educated about the benefits of breastfeeding, that is a community responsibility. When we do not require daily physical education in our schools, that is also a community responsibility. There is much we can and should do together.

—David Satcher, MD, PhD, US Surgeon General, *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity 2001*

I. The Overview

Rhode Island has a problem. A big problem. Obesity. And it is not just Rhode Island. Every state across the country is facing expanding waistlines, increasing numbers on the scale, and rising costs to treat obesity-related health problems. Almost two-thirds of US adults are overweight or obese, one-third are obese, and Rhode Island parallels those national trends. Disparities in obesity rates based on race, ethnicity, gender, and socioeconomic status are widening existing health disparities.

At root of the problem is an energy imbalance: people are consuming more calories than they expend. To reverse the trend, Rhode Islanders need to eat less and be more active. However, in recent years, the environment has also made it harder for people to eat healthy foods and be physically active. To reverse the epidemic, the environment must support healthy choices.

With funding from the Centers for Disease Control and Prevention (CDC), the Rhode Island Department of Health (HEALTH) established its obesity prevention program, the Initiative for a Healthy Weight (IHW) and convened concerned Rhode Islanders in the Obesity Planning Council (OPC) to help identify the key actions needed to reverse the current trends in obesity. The plan's objectives grew out of thoughtful discussions of the OPC, and many of those same people have begun work on programs and policies to support those objectives. The plan focuses on nutrition, breastfeeding, physical activity, and limited screen time, four behaviors that contribute to healthy weight. Objectives targeting individual, environmental, and policy change are organized in four settings: schools & childcare, communities, worksites, and the healthcare system. Objectives are based on the best available science, are realistic and achievable, and can be made measurable and time-framed when action plans are developed.

No single group can solve the obesity problem; the coordinated effort of many partners will be needed. Led by the Director of Health, the Healthy Eating and Active Living Collaborative will be the forum for partners to come together in this fight. Existing and new advisory groups will support the effort with their specific expertise. An initial priority area of childhood obesity has already been identified and four workgroups are already developing action plans. There is much to be done, and Rhode Islanders need to make commitments both to changing individual behaviors and to changing environments so that all Rhode Islanders can lead active healthy lives.

Objectives

Long Term Objectives

Objective I	By 2012, reduce the proportion of adults who are overweight or obese (BMI > 25) to ____%.
Objective II	By 2012, reduce the proportion of adolescents and children who are at risk for overweight or overweight (BMI > the 85th percentile CDC Growth Charts) to ____%.
Objective III	By 2012, eliminate racial and ethnic disparities in overweight and obesity.

Nutrition Objectives

Intermediate Objectives

Objective 1	Improve the nutritional quality of diets and decrease excessive caloric intake.
Objective 1a	By 2010, __% of adults, adolescents and children will eat five or more servings of fruits and vegetables per day.
Objective 1b	By 2010, decrease the average daily consumption of sugar-sweetened beverages among adolescents and children to __ ounces per day.
Objective 1c	By 2010, __% of adults, adolescents and children will meet the recommended daily intake for total and saturated fat.

Short Term Objectives

SCHOOLS

Objective 1.1	By ____, __% of school meal programs will meet the <i>Dietary Guidelines for Americans 2005</i> for all meals.
Objective 1.2	By ____, __% of schools will provide the recommended time for students to eat breakfast and lunch.
Objective 1.3	By ____, __% of schools will increase the amount of fruits and vegetables in school meal programs, stores or vending machines.
Objective 1.4	By ____, __% of school districts will adopt nutritional standards for all food served or sold on the premises.
Objective 1.5	By ____, __% of schools will provide skill-based, behavior-focused nutrition education aligned with Rhode Island standards.
Objective 1.6	By ____, __% of schools will offer before- or after-school programs that provide healthy food and nutritional information about energy balance.
Objective 1.7	By ____, __% of childcare programs will provide meals consistent with the <i>Dietary Guidelines for Americans 2005</i> .
Objective 1.8	By ____, __% of childcare programs will adopt nutritional guidelines for all foods served on the premises.
Objective 1.9	By ____, __% of childcare programs will provide nutrition education for parents and children.
Objective 1.10	By ____, __% of schools will provide nutrition education programs and continuing education opportunities for staff.
Objective 1.11	By ____, __% of schools will provide nutrition education programs for families.

COMMUNITIES

Objective 1.12	By ____, __% of community-based organizations will provide hands-on, healthy eating learning opportunities.
Objective 1.13	By ____, __% of communities will have farmers' markets or community garden programs.
Objective 1.14	By ____, __% of underserved, low-income communities will have markets that provide low-cost, high-quality fruits and vegetables.
Objective 1.15	By ____, __% of full-service and fast food restaurants will expand healthy food options.
Objective 1.16	By ____, __% of full-service and fast food restaurants will provide full-disclosure nutrition information at point of purchase.

WORKSITES

Objective 1.17	By ____, __% of worksites will provide healthy food options for employees.
Objective 1.18	By ____, __% of worksite cafeterias will provide full-disclosure nutrition information at point of purchase.
Objective 1.19	By ____, __% of worksites will implement fruit and vegetable initiatives.
Objective 1.20	By ____, __% of worksites will provide education or information about healthy eating and weight management.

HEALTHCARE

Objective 1.21	By ____, __% of healthcare providers will routinely track Body Mass Index and follow evidence-based guidelines for nutrition counseling and referral.
Objective 1.22	By ____, __% of health insurance plans will cover nutrition counseling and weight management services.

Breastfeeding Objectives

Intermediate Objectives

Objective 2	Increase the proportion of mothers who breastfeed their babies.
Objective 2a	By 2010, 75% of mothers will breastfeed their babies in the early postpartum period.
Objective 2b	By 2010, 50% of mothers will breastfeed their babies for at least six months.
Objective 2c	By 2010, 25% of mothers will breastfeed their babies for at least twelve months.

Short Term Objectives

SCHOOLS

Objective 2.1	By _____, ____% of schools will incorporate breastfeeding education into the core curriculum.
Objective 2.2	By _____, ____% of childcare programs will have policies and environments that support breastfeeding mothers.
Objective 2.3	By _____, ____% of childcare program staff will provide basic breastfeeding support and referral.

COMMUNITIES

Objective 2.4	By _____, ____% of communities will provide breast pump distribution programs.
Objective 2.5	By _____, ____% of communities will provide peer support programs for breastfeeding mothers.

WORKSITES

Objective 2.6	By _____, ____% of worksites will have policies, programs or environments that support breastfeeding mothers.
Objective 2.7	By _____, ____% of employers will provide benefit plans with enhanced maternity leave and lactation benefits, including flexible work schedules.

HEALTHCARE

Objective 2.8	By _____, ____% of hospitals and maternity care facilities will adopt evidence-based maternity care practices.
Objective 2.9	By _____, ____% of healthcare providers will provide evidence-based breastfeeding counseling and referral during preconceptional, prenatal, and postpartum visits.
Objective 2.10	By _____, ____% of healthcare facilities will have policies restricting the marketing and distribution of infant formula on the premises.
Objective 2.11	By _____, ____% of health insurance plans will cover breastfeeding support services and equipment.

Physical Activity Objectives

Intermediate Objectives

- Objective 3** Increase the proportion of adults, adolescents and children who engage in regular physical activity.
- Objective 3a** By 2010, __% of adults will engage in moderate physical activity for at least 30 minutes daily.
- Objective 3b** By 2010, __% of adolescents and children will engage in moderate physical activity for at least 60 minutes daily.

Short Term Objectives

SCHOOLS

- Objective 3.1 By ____, __% of schools will provide daily structured physical education aligned with the Rhode Island Physical Education Framework.
- Objective 3.2 By ____, __% of elementary schools will provide daily recess.
- Objective 3.3 By ____, __% of before- and after-school programs will include physical activity.
- Objective 3.4 By ____, __% of childcare programs will include physical activity.
- Objective 3.5 By ____, __% of schools will provide staff with opportunities to be physically active.
- Objective 3.6 By ____, __% of schools will provide families with opportunities to be physically active.
- Objective 3.7 By ____, __% schools will have Safe Routes to School programs.

COMMUNITIES

- Objective 3.8 By ____, __% of community-based organizations will provide opportunities for physical activity.
- Objective 3.9 By ____, __% of communities will have new or revitalized parks or trails.
- Objective 3.10 By ____, __% of communities' comprehensive plans will include objectives for improving community walkability.

WORKSITES

- Objective 3.11 By ____, __% of worksites will have environmental supports for physical activity.

HEALTHCARE

- Objective 3.12 By ____, __% of healthcare providers will routinely track Body Mass Index and follow evidence-based guidelines for physical activity counseling and referral.
- Objective 3.13 By ____, __% of health insurance plans will cover physical activity programs.

Screen Time Objectives

Intermediate Objective

Objective 4 By 2010, ___% of adolescents and children will spend two or fewer hours per day in front of a screen (TV, video, videogames).

Short term Objectives

SCHOOLS

Objective 4.1 By ____, ___% of schools will incorporate screen time education into the core curriculum.

Objective 4.2 By ____, ___% of before- and after-school programs will promote reduced screen time.

Objective 4.3 By ____, ___% of childcare programs will promote reduced screen time.

COMMUNITIES

Objective 4.4 By ____, ___% of community-based organizations will promote reduced screen time.

WORKSITES

Objective 4.5 By ____, ___% of worksites will promote reduced screen time.

HEALTHCARE

Objective 4.6 By ____, ___% of healthcare providers will provide screen time counseling.

II. The Process

Responding to the Epidemic

In 2001, the Rhode Island Department of Health (HEALTH) was one of the first six states to receive funding from the Centers for Disease Control and Prevention (CDC) to respond to the rise in obesity and overweight. HEALTH established the Initiative for a Healthy Weight (IHW) to build the state's capacity to reverse these trends. Table 1 outlines the vision, mission, goal and strategies of IHW. As part of its charge, IHW led the development of a state plan to serve as a blueprint for Rhode Islanders to work together and address this epidemic.

Table 1. The vision, mission, goal and strategies of the Initiative for a Healthy Weight

Initiative for a Healthy Weight
Vision A Rhode Island where safe and healthy communities support healthy eating and active living.
Mission The mission of IHW is to prevent obesity among all Rhode Islanders. IHW coordinates, supports, and implements activities to promote lifelong healthy eating and active living through partnerships, community capacity building, policy and environmental changes, and targeted interventions.
Goal Lead Rhode Island in achieving the objectives set forth in <i>Rhode Island's Plan for Healthy Eating and Active Living</i> .
Overarching Strategies <ul style="list-style-type: none">• Build and sustain partnerships for communication, coordination and collaboration.• Build community capacity through technical assistance, training, and resource development.• Develop and support policy and environmental improvement initiatives for healthy communities.• Implement CDC-supported, targeted interventions in selected populations.

Development of the Plan

To assist in the development of the plan, IHW convened the Obesity Planning Council (OPC), an ethnically and culturally diverse group of over 100 individuals with a passion for improving the health of their fellow Rhode Islanders (Appendix A). This council drew membership from government agencies, professional organizations, advocacy groups, community-based and faith-based organizations, and local businesses. Members included individuals with professional expertise in nutrition and physical activity, as well as years of collective experience working with schools, communities, worksites, and healthcare.

Over two years, OPC members volunteered countless hours of their time to review scientific literature and national obesity prevention guidelines. As part of this strategic planning process, they developed program, policy and environmental strategies for increasing physical activity and improving nutrition in schools, communities, worksites and healthcare settings. The OPC considered the state's specific challenges and resources in the development of these recommendations. IHW staff then translated these recommendations into specific objectives—the basis for *Rhode Island's Plan for Healthy Eating and Active Living*.

Purpose of the Plan

Rhode Island's Plan for Healthy Eating and Active Living is a call to action for all Rhode Islanders. As a comprehensive guide, the plan provides a roadmap for schools, communities, worksites and the healthcare sector to follow to address overweight and obesity in Rhode Island. The plan's objectives guide the coordinated efforts of state- and community-level organizations to create programs, policies, and environments that support healthy eating and active living for all Rhode Islanders.

Overall, the plan provides a snapshot of the obesity problem and a detailed look into how the nation and our state became so overweight. The plan concludes with recommendations for how to fix the obesity problem, including evidence-based objectives and a framework for collaboration and action.

III. The Problem

Obesity & Overweight

America is confronted with an epidemic of obesity that threatens our nation's health, economy, and future.

—Trust for America's Health, *F as in Fat: How Obesity Policies are Failing in America*

Obesity and overweight are major public health problems:

- The World Health Organization declared excess weight one of the top five health risks in developed nations.
- The US Public Health Services and the US Surgeon General have made obesity a national priority, as evidenced by the initiation of state-based programs to address this issue.
- *Healthy People 2010* and *Healthy Rhode Island 2010* have selected overweight and obesity as one of the Leading Health Indicators for the next decade, reflecting their status as a major public health concern (Appendix B & C).

In his *Call to Action*, the US Surgeon General David Satcher, MD, PhD, warned, “While the United States has made dramatic progress over the last few decades in achieving many of its health goals, the statistics on overweight and obesity have steadily headed in the wrong direction.” Because of the health impacts of obesity and overweight, these rising statistics threaten to reverse the health gains made in areas such as heart disease, diabetes, and cancer.

Obesity, Overweight and BMIs

The first challenge in addressing overweight and obesity has been in adopting a common measure for these conditions. The National Institutes of Health recommends using Body Mass Index (BMI) to define overweight and obesity. BMI, a measure of weight in relation to height, is used to determine weight status because it correlates with total body fat content for most people. Remember that although BMI correlates with body fat, it does not directly measure body fat. As a result, some people, such as athletes, may have a BMI that identifies them as overweight even though they do not have excess body fat.

Adults

The National Institutes of Health has categorized adult weight status by BMI (Table 2). Definitions of obesity and overweight are based on evidence that health risks are greater for those people with a BMI at or above 25 compared to those with a BMI below 25.

Children

For children and adolescents, BMIs are used to assess “at risk for overweight” (similar to adult overweight category) and “overweight” (similar to adult obese category). Because children's body fatness changes as they grow, and girls and boys differ in their body fatness, BMI for children is gender- and age-specific. Healthcare professionals use CDC growth charts to identify overweight in children (Table 3).

Table 2. Adult weight status by Body Mass Index

BMI	Weight Status
≤ 18.5	Underweight
18.5-24.9	Normal
25.0-29.9	Overweight
≥ 30.0	Obese

Source: Centers for Disease Control and Prevention.

Table 3. Child and adolescent weight status by BMI-for-age percentiles

BMI-for-age percentiles	Weight Status
$< 5^{\text{th}}$	Underweight
5^{th} to $<85^{\text{th}}$	Normal
85^{th} to $<95^{\text{th}}$	At Risk for Overweight
$\geq 95^{\text{th}}$	Overweight

Source: Centers for Disease Control and Prevention.

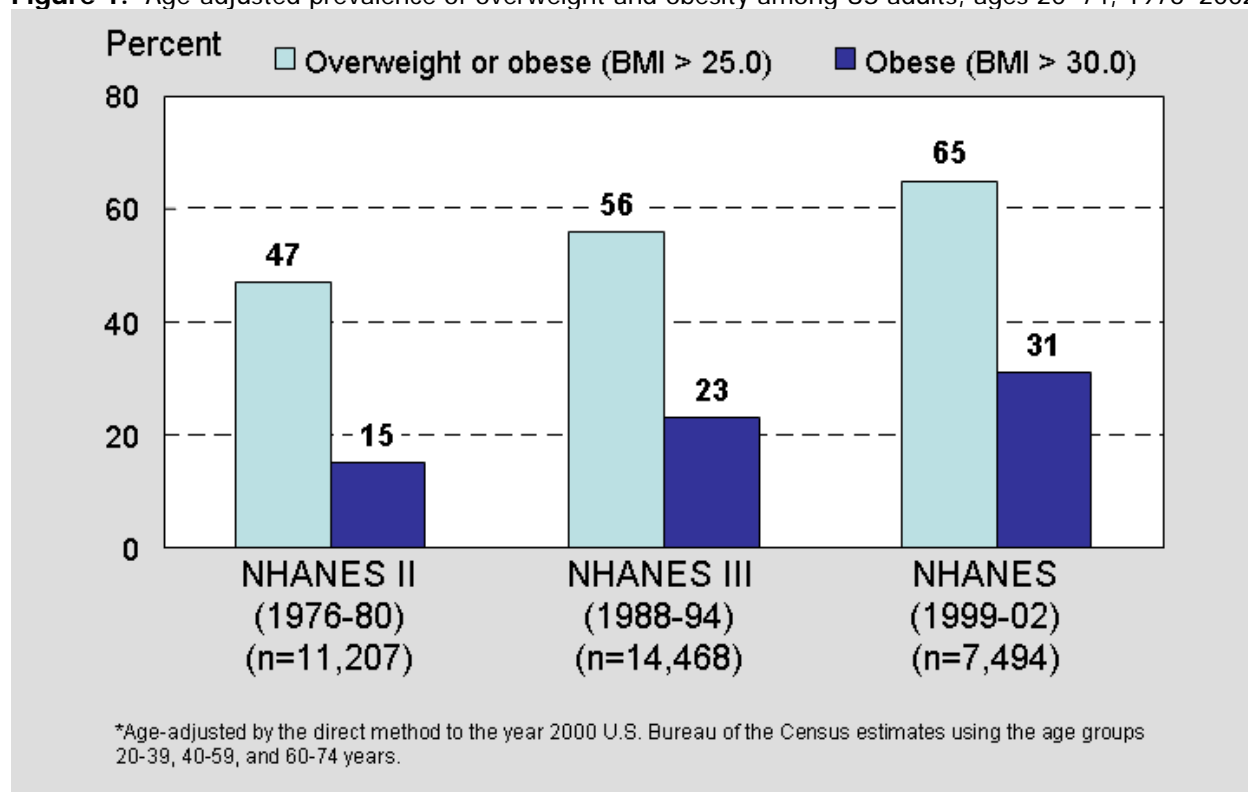
On the Rise

The US population is experiencing substantial increases in overweight and obesity. These increases cut across all sections of society, regardless of age, gender, race and ethnicity. Overweight and obesity have now reached epidemic proportions.

Adults

Between 1980 and 2002, obesity rates among **US adults** have doubled (Figure 1). Almost two-thirds of US adults are overweight or obese, with almost a third falling into the obese category.

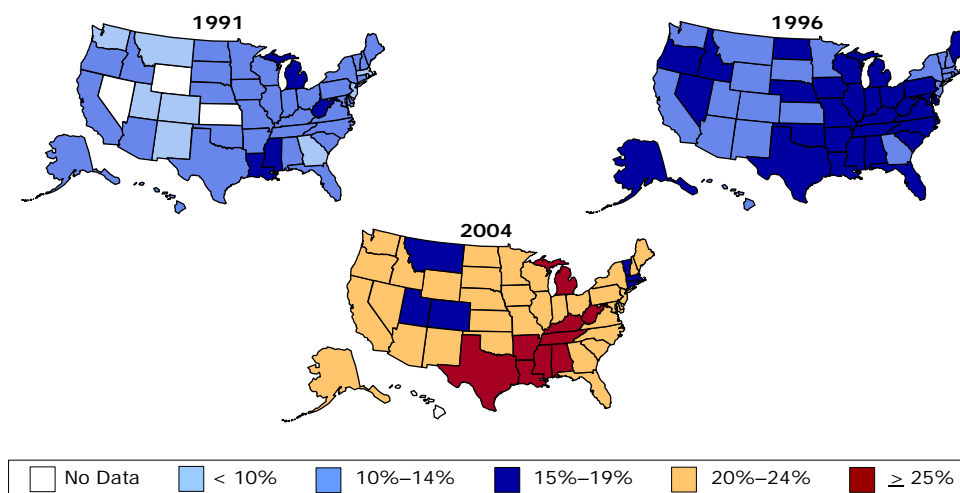
Figure 1. Age-adjusted prevalence of overweight and obesity among US adults, ages 20–74, 1976–2002



Data Source: CDC, National Health and Nutrition Examination Survey (NHANES).

Obesity rates have been increasing in every state in the nation (Figure 2). In 1991, four states had obesity rates of 15–19% and no states had rates at or above 20%. By 2003, 15 states had obesity rates of 15–19%; 31 states had rates of 20–24%; and 4 states had rates more than 25%.

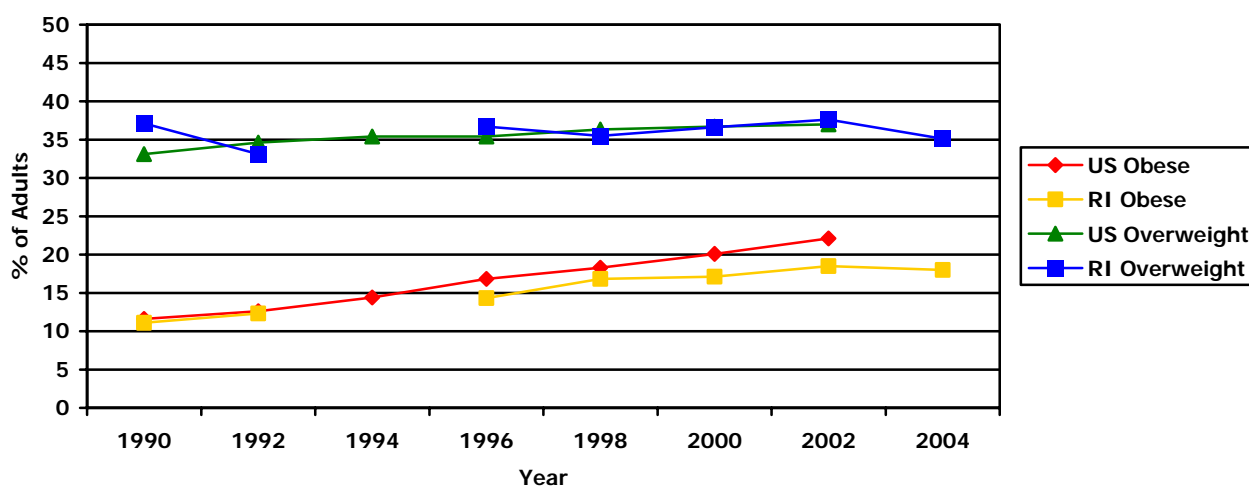
Figure 2. Obesity prevalence among US adults, ages 18 and older, 1991, 1996, 2004



Data Source: CDC, BRFSS.

The picture of obesity and overweight among **RI adults** mirrors the national statistics (Figure 3). Fifty-three percent of RI adults, ages 18 and older, are overweight or obese, with 18% of adults in the obese category. Similar to the national data, RI rates have increased substantially over the past decade.

Figure 3. Prevalence of obesity & overweight in US and RI adults, ages 18 and older, 1990–2004¹



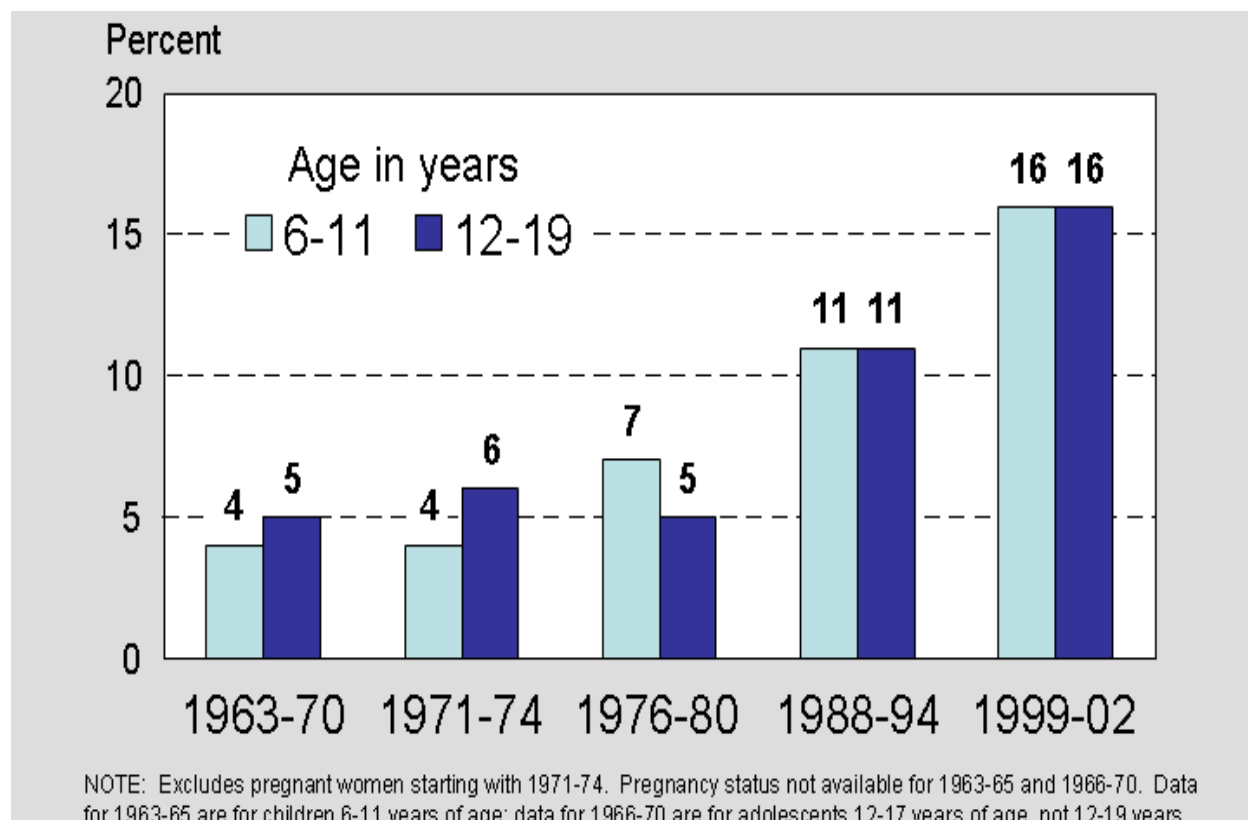
¹No National data for 2004; No Rhode Island data for 1994

Data Source: Rhode Island Department of Health, Behavioral Risk Factor Surveillance Survey, 1990 – 2004;

Children

The obesity problem is not limited to adults. In 2002, 16% of **US children**, ages 6-19, were overweight (Figure 4) and another 15% were at risk of overweight. Since the 1970s, rates of overweight have more than doubled for pre-schoolers, ages 2-5, and adolescents, ages 12-19, and have more than tripled for children, ages 6-11. At present, approximately 9 million US children over age six are considered overweight.

Figure 4. Prevalence of overweight among US children and adolescents, ages 6–19, 1963–2002



Source: National Center for Health Statistics (NCHS). Prevalence of overweight among children and adolescents: United States, 1999-2002. Available at: <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overwght99.htm>.

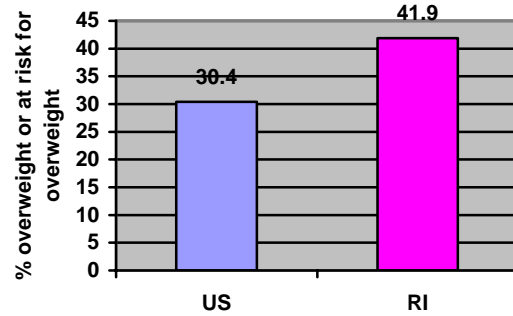
Overweight and obesity are also problems for **RI children**:

- 47% of RI children, ages 6-11, are at risk for overweight (17%) or overweight (31%).
- 30% of RI adolescents, ages 12-17, are at risk for overweight (18.4%) or overweight (11.7%).

RI WIC program data show that 42% of WIC children, ages 2–5, are at risk of overweight or overweight. When compared to rates reported in CDC's Pediatric Nutrition Surveillance Program, which tracks the rates for similar WIC populations nationwide, Rhode Island's combined overweight and at risk of overweight rate (42%) is significantly higher than the national rate of 30% (Figure 5).

Given the high rates of overweight, children are at higher risk than ever before for related chronic diseases, such as diabetes, at even earlier ages.

Figure 5. Estimated percentages of RI and US children, ages 2-5 who are overweight or obese, 2003



Sources: National data: CDC's 2003 Pediatric Nutrition Surveillance System (PedNSS), 2003, children ages 2- 5 years. RI data: 2003 RI WIC Program Data

Impacting Health

Obesity is taking a toll on the nation's health. Obesity increases the risk of developing chronic diseases, worsens the symptoms of disease, and increases the risk of death from disease. According to Sturm (2001), illness from obesity ranks with poverty, smoking, and problem drinking, and, according to Flegal, et al (2005), obesity causes an estimated 112,000 excess deaths a year.

Adults

Among **US adults**, overweight and obesity increase the risk of developing coronary heart disease, stroke, type 2 diabetes, and cancer, four of the ten leading causes of death in the United States:

- Over 927,000 Americans die of coronary heart disease, stroke and other forms of cardiovascular disease each year—almost 2 deaths every minute. Two major risk factors for cardiovascular disease are high blood pressure and high cholesterol, both of which are linked to obesity. Weight gains as small as 10-12 pounds increase the risk of cardiovascular disease.
- The prevalence of type 2 diabetes has tripled in the last 30 years. Type 2 diabetes is a major cause of early death, cardiovascular disease, blindness, kidney disease, and loss of limbs. Overweight increases the chances of developing diabetes seven-fold, and obesity makes it 20 to 40 times more likely.
- Many types of cancer are associated with being overweight. In women, these include cancer of the uterus, gallbladder, cervix, ovary, breast, endometrium, and colon. Overweight men are at higher risk for developing colorectal cancer and prostate cancer.

In addition, overweight and obese adults are at increased risk of developing gallbladder disease, musculoskeletal disorders (arthritis, osteoporosis, and muscle and joint pain), and sleep apnea. Obese individuals may also suffer from social stigmatization and discrimination, leading to low self-esteem, depression, and other psychological difficulties.

RI adults are affected by the health consequences of overweight and obesity. An estimated 208,000 RI adults have high blood pressure and 264,000 have high cholesterol. Approximately 48,000 Rhode Islanders have diabetes. As seen in national data, high blood pressure, high cholesterol, and diabetes are associated with weight status among RI adults (Table 4). Among RI adults, those who are overweight or obese are more likely than those who are normal weight to have high blood pressure, high blood cholesterol, or diabetes.

Table 4. Obesity-related disease by weight status of RI adults, ages 18 and older, 2003 ^{1,2}

Weight status	High blood pressure % (95 CI)	High cholesterol % (95 CI)	Diabetes % (95 CI)
Under/Normal	18.5% (16.4 to 20.7)	25.7% (23.1 to 28.3)	3.3% (2.1 to 4.6)
Overweight	34.2% (31.3 to 37.1)	38.5% (35.4 to 41.7)	7.5% (6.1 to 9.0)
Obese	45.3% (41.1 to 49.6)	40.2% (35.8 to 44.5)	14.1% (11.3 to 17.0)

¹ Weighted percentages and unweighted sample

² High blood pressure = ever told have high blood pressure, excludes high blood pressure during pregnancy; High cholesterol = ever told have high blood cholesterol; Diabetes = ever told have diabetes by health care provider, excludes diabetes during pregnancy.

Source: RI BRFSS, 2003

Children

It is not just adults who are suffering the health consequences of obesity and overweight. The health effects of overweight in **US children** include high blood pressure and cholesterol, diabetes, orthopedic problems, low self-esteem, and adult obesity:

- High blood pressure is increasingly common among children and the risk of significantly elevated blood pressure has been found more commonly in overweight children and adolescents compared to their non-obese peers. A Louisiana community-based study found that 61% of overweight children, ages 5-10, already had at least one cardiovascular disease risk factor (high blood pressure or high cholesterol), and over 25% of overweight children have two or more risk factors.
- Once considered rare, type 2 diabetes in children is on the rise and is linked to obesity. American children born in 2000 face a one-in-three chance of developing type 2 diabetes.
- Overweight children are at added risk for developing orthopedic problems. In young children, excess weight can lead to bowing and overgrowth of leg bones. Increased weight on the growth plate of the hip can cause pain and limit range of motion.
- Overweight is associated with low self esteem in some youth. Some obese children report increased rates of loneliness, sadness, and nervousness. Overweight children and adolescents also report negative assumptions made about them by others, including being inactive or lazy, being strong and tougher than others, not having feelings, and being unclean.
- About 50% of overweight adolescents will become overweight or obese adults.

Paralleling the increase in overweight and obesity, hospital discharge data indicate that the percentage of discharges with obesity-related diseases increased dramatically from 1979–1981 to 1997–1999 among children, ages 6 – 17. During this time frame, discharges for diabetes doubled, gallbladder disease tripled, and sleep apnea increased fivefold.

Currently, data is not available on the health impacts of obesity for **RI children**.

Paying the Bill

In addition to the health consequences, the economic consequences of overweight, obesity, and their associated health problems are great. According to Sturm 2002, the impact on healthcare costs now rivals those of smoking.

Adults

Overweight and obese **US adults** have higher healthcare costs than healthy weight adults. Overweight and obesity are associated with both direct healthcare costs (preventive, diagnostic, and treatment services) and indirect healthcare costs (lost wages from inability to work, loss of future earnings due to premature death). The total cost of obesity in the United States is staggering, about \$100 billion annually (2002 dollars), more than 5% of national health expenditures. Most of this cost is attributable to type 2 diabetes, hypertension, and coronary heart disease, and half of these costs are covered by Medicare and Medicaid.

Overweight and obesity are a burden on the **RI economy**, as well. State-level estimates of annual medical expenditures attributable to obesity in Rhode Island are approximately \$305 million (2003 dollars).

Children

The rise in obesity among **US children** has contributed to rising healthcare costs. In 2001 dollars, obesity-associated annual hospital costs for children, ages 6–17, were estimated to have more than tripled from \$35 million (1979–1981) to \$127 million (1997–1999) .

Currently, there is no data available about the economic impact of the rise in obesity among **RI children**.

An Unequal Burden

Although obesity and overweight affect all population groups in the United States, there are disparities in overweight and obesity rates based on race and ethnicity, gender and socioeconomic status.

Adults

Among **US adults**, overweight and obesity rates are higher in racial and ethnic minority populations, such as African Americans and Hispanic Americans, compared with white Americans (Table 5). The prevalence of overweight and obesity increased over the last few decades across all racial and ethnic groups (Table 4). **Table 5.** Overweight and obesity prevalence among US adults,¹ by race and ethnicity, 1976–2000²

Race / Ethnicity	Overweight Prevalence (%)			Obesity Prevalence (%)		
	1976–1984	1988–1994	1999–2000	1976–1984	1988–1994	1999–2000
Non-Hispanic Black	55.1	62.5	69.6	23.2	30.2	39.9
Mexican Americans	60.1	67.4	73.4	20.6	28.4	34.4
White Americans	44.3	52.6	62.3	13.4	21.2	28.7

¹ Ages 20 and older for 1999–2000; Ages 20 to 74 for 1976–1984 & 1988–1994.

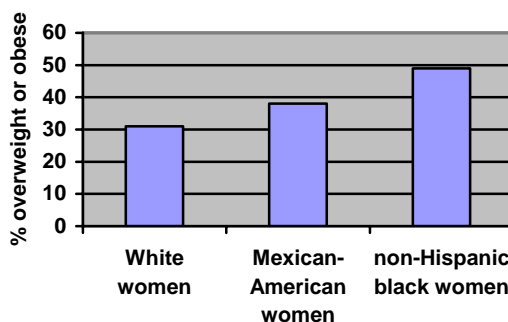
² Mexican American data for 1976–1984 comes from HHANES (1982–1984); All other 1976–1984 data comes from NHANES II (1976–1980); NHANES III was used for 1988–1994; NHANES 1999–2000 was used for 1999–2000.

Source: CDC, National Center for Health Statistics, National Health and Nutrition Examination Survey. Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and Trends in Obesity Among US Adults, 1999–2000. JAMA. 2002; 288(14):1723–7. Flegal KM, Carroll MD, Kuczmarski RJ, Johnson CL. Overweight and obesity in the United States: prevalence and trends, 1960–1994. International Journal of Obesity, 1998;22:39–47.

Although men are more likely to be overweight than women, more women are obese than men. Racial and ethnic minority women, in particular, are more likely to be obese than non-Hispanic white women (Figure 6).

For all racial and ethnic groups, women of lower socioeconomic status are approximately 50% more likely to be obese than those with higher socioeconomic status. Among Mexican American women, in particular, the rate of overweight is about 13% higher for women living below the poverty line versus above the

Figure 6. Obesity and overweight prevalence in the United States, by race and gender.



Source: NHANES

poverty line. Men are about equally likely to be obese whether they are in a low or high socioeconomic group.

Among Rhode Islanders, disparities in obesity and overweight exist in different populations as well:

- Rates of overweight are higher in men (46.3%) than in women (28.4%).
- Rates of obesity are higher in Hispanic populations (27.9%) than in white (18.0%) and black (16.1%) populations.

Because of the devastating impact of obesity on health status, racial and ethnic differences in obesity trends are widening existing health disparities. Many obesity-related diseases, such as heart disease, diabetes and cancer, are found at higher rates within the minority races compared with Caucasians. These disparities in obesity-related health problems will only be worsened by the rise in overweight and obesity in these populations.

- The high prevalence of obesity is reported to be a contributing factor to the high prevalence of hypertension in minority populations, especially among African Americans who have an earlier onset and run a more severe course of hypertension. Obesity-related hypertension occurs at higher rates among African-American compared with Caucasians.
- Compared with white Americans, African Americans are at higher risk for heart failure and death from coronary heart disease. The high prevalence of obesity and obesity-related conditions, such as hypertension and type 2 diabetes, are factors reported to contribute to their high death rate from coronary heart disease.
- Diabetes has been reported to occur at a rate of 16–26% in Hispanic Americans and African Americans, ages 45–74, compared with 12% in non-Hispanic whites of the same age.
- African Americans are more likely to die of cancer than people of any other racial or ethnic group. Obesity appears to contribute to the higher risk of pancreatic cancer among black Americans than among whites, particularly for women.

Children

The disparities are also reflected in younger populations. Non-Hispanic black (21%) and Mexican-American adolescents (23%), ages 12-19, are more likely to be overweight than non-Hispanic white adolescents (14%). Mexican-American children (22%), ages 6–11, are more likely to be overweight than non-Hispanic black children (20%) and non-Hispanic white children (14%). Adolescents from families below 130% of the federal poverty threshold are twice as likely to be overweight (16%) compared to those from families that are above 130% of the federal poverty level (8%).

In Rhode Island:

- Rates of overweight and at risk for overweight are higher in boys, ages 6–17, (42.3%) than girls (31.5%). Among RI high school students, ages 13-17, nearly three times as many boys as girls are overweight (14% vs. 5%).
- Rates of overweight and at risk for overweight are higher in non-Hispanic black (49.0%) and Hispanic (46.1%) children and adolescents, ages 6–17, than in white children and adolescents (35.9%). Among high school students, rates of overweight and at risk for overweight are higher in Hispanics (31.5%) than in whites (22.7%).

Children will also suffer from disparities associated with obesity-related conditions. While one third of all children born in 2000 will develop type 2 diabetes, about one-half of black and Hispanic children born in 2000 will develop this condition. Because overweight children tend to become overweight adults, the rapid increase in overweight among children can only intensify long-term racial and ethnic disparities in health status among adults.

Addressing Obesity

The obesity problem has worsened in recent decades. It affects the health, economy and quality of life in our nation and our state. Unfortunately, because the burden is not felt equally, obesity and its related health consequences further the gap in health status among low income and racial and ethnic minority populations. The complex causes of obesity need to be addressed to halt rising obesity numbers.

IV. The Cause

An Energy Imbalance

Those following typical American eating and activity patterns are likely to be consuming diets in excess of their energy requirements....To reverse the trend toward obesity, most Americans need to eat fewer calories, be more active, and make wiser food choices.

—US Department of Health and Human Services & US Department of Agriculture, *Dietary Guidelines for Americans 2005*

Overweight and obesity result from an energy imbalance that occurs when people consume more calories than they expend through daily bodily functions and physical activity. Even small imbalances in consumption and expenditure over time can result in significant weight changes. For example, a difference of one 12-oz soda (approximately 150 calories) or 30 minutes of brisk walking each day can add or subtract 10 pounds of body weight per year.

Although overweight and obesity are the result of complex interactions between genetic, physiological, metabolic, behavioral, environmental, cultural, and socioeconomic influences, the rapid increase in rates of overweight and obesity in the United States over the last several decades has occurred too rapidly for changes in genetic or physiological mechanisms to be the primary cause. Rather, the emerging epidemic can be attributed to changes in eating habits and physical activity levels resulting in an overall positive calorie balance (i.e. more calories going in than calories being burned off). In the simplest terms, overeating and insufficient physical activity underlie much of this public health crisis.

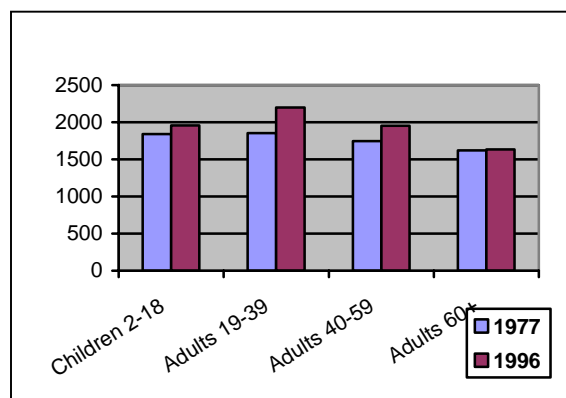
Calories In

Between 1977 and 1996, Americans of all age groups increased the number of calories they consumed (Figure 7). Specific dietary behaviors are responsible for this increase in calories: 1) an increase in the consumption of energy dense, nutrient-poor foods and beverages and 2) a continued inadequate consumption of low-energy-dense fruits and vegetables. Even infants in this country are showing signs of caloric over-consumption because too few are being breastfed, and some are consuming more calories than they need and gaining too much weight in their first few weeks and months of life.

A food's **energy density**, amount of energy per unit of food weight (calories per gram), is determined by its water, fiber and fat content.

The higher the water and fiber content of a food, the lower the energy density of that food. The higher the fat content of a food, the higher its energy density. Fruits and vegetables are very low in energy density because they are high in both water and fiber content. Fast food and high-fat convenience foods are very high in energy density.

Figure 7. Average daily caloric intake, United States, 1977 and 1996



Source: National Food Consumption Survey (1977-1978); Continuing Surveys of Food Intake by Individuals (1994-1996)

Too Many Energy Dense Foods, Nutrient-Poor Foods

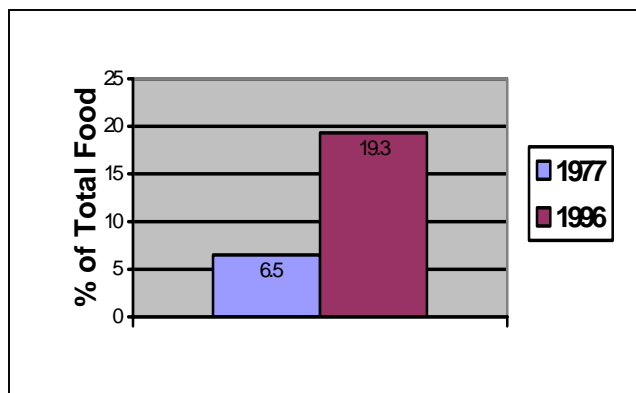
High energy dense foods, such as fast food, potato chips and sweets, tend to be palatable (pleasing to taste) but may not be satiating (make one feel full), calorie for calorie, thereby encouraging continued eating and greater food consumption. For many people, this new concept of energy density is confusing because the old thought was that fat is satiating and helps people stop eating. However, new research shows just the opposite, i.e., people typically consume fewer calories when meals are low in energy density than they do when meals are high in energy density.

Much of the increased intake of high-energy-dense foods can be explained by the increased number of meals being eaten away from home, and, in particular, to meals eaten at restaurants and fast food outlets. The foods showing the greatest increases in consumption are the same foods most often eaten away from home: French fries, hamburgers, cheeseburgers, pizza, Mexican food, salty snacks and soft drinks. Food consumption surveys also report that low-energy-dense fruits and vegetables are eaten less frequently when people eat meals away from home, a trend expected to continue.

Over the past two decades, meals and snacks eaten away from home increased by more than 75%, from 16% of all meals and snacks in 1977-78 to 27% in 1995 (Figure 8). In 1970, Americans spent one third of their food dollars on food away from home; this amount grew to almost half of all food dollars in 2001.

Fast foods are by far the most common source of meals away from home, accounting for 43% of all meals away from home. These away-from-home foods are much higher in energy density and account for 197 additional calories per day, as well as a significantly higher fat intake (33.6% of total calories as fat for away-from-home food versus 31.5% for foods eaten at home). Because away-from-home foods are more energy-dense, many meals at popular restaurants range from 1000 to 2000 calories, the equivalent of between 35% and 100% of a full day's caloric requirement for most adults. The average meal at a fast food restaurant provides twice the energy density of recommended healthful diet.

Figure 8. Percent of food consumed by children in restaurants & fast food outlets



Source: National Food Consumption Survey (1977-1978); Continuing Surveys of Food Intake by Individuals (1994-1996)

Meals away-from-home provide limited amounts of fruits and vegetables, with the average meal providing less than half a serving of fruit and just over one serving of vegetables. At nearly one-half of the restaurant chains surveyed in a recent study, French fries were the only vegetable side dish on children's menus.

Limited information about the nutritional content of the foods away from home makes it easy for people to consume more calories and fat and not even realize they are doing so. While some restaurants provide nutrition information on a voluntary basis, this information is rarely observable at the point-of-sale in restaurants, fast-food establishments or worksite cafeterias.

Finally, meals away from home contribute to the obesity crisis for another reason. Research has shown that people "clean their plates" when eating out, consuming more calories than they would if they were eating at home (Table 6).

Table 6. Caloric intake, 1977-1995

Caloric Intake	1977-1978	1995
Average caloric intake	1876	2043
Portion of total calories at home	82%	66%
Portion of total calories away-from-home	18%	34%
Portion of total calories from fast foods	3%	12%
Portion of total calories at restaurants	3%	8%

Source:

In summary, meals eaten away from home have contributed to the obesity crisis by increasing consumption of high-energy-dense foods and decreasing consumption of low-energy dense fruits and vegetables.

Too Much Fat

Energy dense foods are, by definition, high in fat. In fact, fat has the highest energy density of all food groups because it contains 9 kilocalories per gram of food (Table 7). Recent studies have confirmed that high dietary fat intakes are positively associated with obesity, mainly because people who eat high-fat diets also consume more calories. Americans of all age groups are exceeding recommended fat intakes (30%) by about 3%. Of particular concern is the fact that children and adolescents are greatly exceeding recommendations for saturated fat intake (Table 8), placing them at increased risk for premature development of chronic diseases.

Table 7. Food by energy density

Food	Energy Density (# kcal per gram)
Fat	9
Alcohol	7
Protein	4
Carbohydrate	4
Fiber	1.5
Water	0

Source:

Table 8. Average percent of total calories from saturated fat among children

Age group	% calories from saturated fat	American Heart Association Recommendation
Less than 6 years old	12.7%	No more than 7%
Ages 6-11 years	11.7%	No more than 7%
Ages 12-19 years	11.3%	No more than 7%

Source: Wright JD, Wang CY, Kennedy-Stephenson J, Erwin RB. Dietary intake of ten key nutrients for public health, United States: 1999-2000. Advance Data from Vital Health Statistics. April 17, 2003. No. 33

“Added fats”, fats that may not be visible, account for a large proportion of the total fat consumed, providing a staggering 600 calories per person per day in 2000--a 24% increase from the early 1980's. Much of this added fat comes from two types of food: snack foods and fast food.

Snack food (chips, crackers, popcorn and pretzels) consumption roughly tripled from the mid-1970's to the mid-1990's. In 1998, these foods provided 21% of total calories for adolescents. Almost one-quarter of children's and adolescents' daily calories come from energy-dense snack foods.

Fast food consumption quadrupled for adults in the past three decades and quintupled for children. Fast foods provide between 15% and 23% of total calories consumed by adults, 18-39 years-of-age, (the group with the highest intake among Americans), 12 % of total calories for adults, 40 to 49 years-of-age, and 10 % of total calories for children. Studies show that when people eat fast food, they consume more calories, fat, carbohydrates, added sugars and sugar-sweetened beverages and less fiber, milk, fruits and non-starchy vegetables. During a 15-year study, adults who ate fast food more than twice a week gained 10 pounds more than those who ate fast food less than once a week and their insulin resistance increased twice as fast.

Foods low in energy density promote the feeling of fullness and the desire to stop eating, resulting in lower caloric intakes.

Too Much Sugar

Americans are also consuming too much sugar, adding an excessive amount of nutrient-poor, empty calories to their daily diets. For the US population as a whole, added sugars or sweeteners account for 16% of total daily caloric intake. Most of this sugar comes from sugary snack foods, drinks, and desserts, as well as hidden sugars used in food preparation.

Carbonated soft drinks are now the number one source of added sugars in the American diet and account for 33% of total daily sugars. When noncarbonated soft drinks (fruit drinks, ice teas, etc.) are added in, soft drinks account for 43% of total daily sugars.

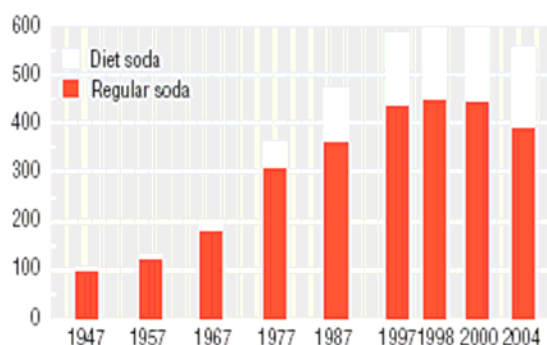
American consumption of carbonated soft drinks exploded over the past 40 years and has more than doubled since 1971. It increased by 300% between 1977 and 1997, peaked in 1998, (when consumption hit 56.1 gallons per person), and then, in an historic turnaround, dropped by 7% in 2004 (Figure 9), a decline resulting from some people switching to diet sodas.

Children start drinking soft drinks at a young age and their consumption increases through young adulthood (Table 9). Twenty percent of one- and two-year-old toddlers consume soft drinks and they drink an average of 7 ounces per day. Almost half of all children between the ages of 6 and 11 drink soft drinks, with the average child consuming 15 ounces per day. A large percentage of children consume three or more soft drinks per day.

Soft drink consumption is highest among teenagers who are consuming ever-increasing volumes (Table 10). Between 1977 and 1994,

soft drink consumption more than tripled among adolescents, rising from 7 to 22 ounces per day. By the time that they are 14, almost a third of adolescent girls and more than half of adolescent boys consume three or more eight-ounce servings of soft drinks daily—the equivalent of 20 teaspoons of sugar. Teenage boys who drink soda drink an average of almost 2.5 sodas a day (28.5 ounces) a

Figure 9. Annual US soft drink production, 1947-2004, 12-oz. cans/person



Source: Gleason P, Suitor C. 2001. Children's Diets in the Mid-1990's: Dietary Intake and Its Relationship with School Meal Participation. Report No. CN-01-CD1. Alexandria, VA: USDA

Table 9. Percent of children consuming ≥ 3 servings* of soft drinks per day (One serving equals one, 8-ounce cup)

Age (years)	Girls	Boys
6–8	3%	7%
9–13	21%	21%
14–18	32%	52%

Sources: Liquid Candy [USDA Economic Research Service (1947-87); Beverage Digest (1997-2004)]

day and teenage girls who drink soda consume about 1.7 sodas a day.

Table 10. Daily beverage consumption by adolescents, ages 13-18, 1999-2002

Beverage	Boys		Girls		All	
	Ounces	Calories	Ounces	Calories	Ounces	Calories
Carbonated soft drinks, total	25	303	17	194	21	250
Caloric	25	303	16	193	20	249
Diet	1	0	1	0	1	0
Fruit drinks	5	60	5	61	5	60
Caloric carbonated + fruit drinks	29	363	21	254	25	310
All carbonated + fruit drinks	30	363	22	254	26	310
Milk	11	160	7	98	9	130

Source: Liquid Candy

In the last decade, researchers have confirmed that soft drinks do contribute to obesity and, that specifically, each additional soft drink consumed increases a child's risk of becoming overweight by 60%. There are two proposed theories for the way this happens. The first is that sugar-sweetened beverages cause obesity because of their substantial contribution to caloric intake. The second theory is that sugar, consumed in the form of liquid, such as soda or alcohol, is more likely to result in weight gain because of the manner in which it is metabolized. Regardless of the mechanism, one thing is certain: for children and adolescents, sugar-sweetened beverages are a big part of the problem.

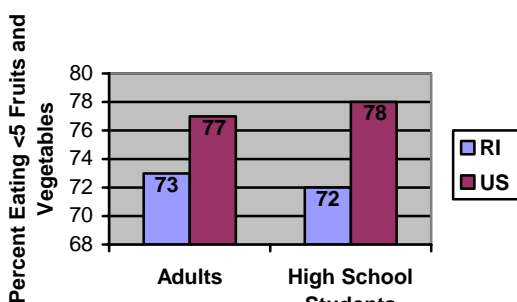
Too Few Low-Energy-Dense Foods

Low-energy-dense foods, such as fruits and vegetables, contain more fiber and water and less fat than high-energy-dense foods. As a result, they promote satiety (feeling full) and reduce caloric intake, but may be considered less palatable by some individuals. Low-energy-dense foods can help people achieve and maintain healthy weights because people typically consume fewer calories when meals are low in energy density. Unfortunately, Americans do not eat enough of these low-energy-dense foods, which could help them achieve and maintain healthy weights.

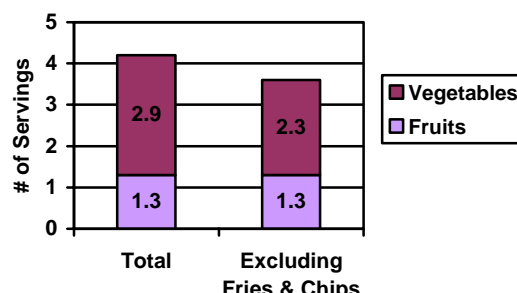
Not Enough Fruits and Vegetables

Less than 30% of Americans, in all age groups, eat the recommended five or more servings of fruit and vegetables per day. (Figure 10)

When energy dense French fries and potato chips are excluded from the vegetables category, only 20% of Americans meet the Dietary Guidelines and the average American eats only 3.6 servings of fruits and vegetables per day (2.3 servings of vegetables and 1.3 servings of fruits) (Figure 11).

Figure 10. Percent of Americans eating <5 fruits and vegetables per day

Source:

Figure 11. Average US daily servings of fruits and vegetables

Source:

There are disparities in fruit and vegetable intake. Those who achieve 5+ servings per day tend to reside in households with higher income and education levels. Adolescent boys, men 45 years of age and older, and women 55 years of age and older are the largest consumers and families with children and blue-collar workers are the lowest consumers of fruits and vegetables. Only 13% of families with children meet the recommendations, particularly in households where the mother works outside the home. In fact, all family members consume about 10% fewer fruits and vegetables when the mother works outside the home, as the need for convenience is even greater.

Children are also not meeting the recommended guidelines and are developing poor fruit and vegetable habits at an early age.

On any given day, the average American child eats only 3.5 servings of fruits and vegetables, achieving only half the recommended seven servings per day for this age group. Forty-five percent of children eat no fruit and 20% eat less than one serving of vegetables. Among infants and toddlers, ages 9–24 month, 25–30% do not eat any fruit and 20–25% do not eat any vegetables. French fries were the most commonly consumed vegetable for infants and toddlers 15 to 24 months, and fried potatoes make up 46% of vegetable servings for children 2 to 19 years old.

The numbers clearly show that Americans are eating too few low-energy dense foods (fruits and vegetables) and too many high-energy dense foods (fatty and sugary foods and snacks), resulting in excessive caloric intake, energy imbalance and, eventually, overweight and obesity.

Not Enough Breastfeeding

Recent studies have shown that by feeding babies infant formula instead of breast milk, mothers may be increasing the likelihood that they will become overweight or obese children. In fact, the shorter the duration of breastfeeding, the greater the risk of obesity (Table 11).

Similarly, supplementing with formula or adding solid food before six months of age has also been found to increase the risk of becoming an overweight child.

The sooner the mother adds formula or solids, the greater the risk that the infant will become an overweight child. Children exclusively breastfed for less than

6 months have a greater risk of elevated weight gain at the age of 2 years than children breastfed for 6 months and more. Infants who were exclusively breastfed for only one month had twice as often elevated weight gain compared to infants who are breastfed at least 6 months. A recent study concluded that the population attributable risk of overweight due to formula feeding is 15-20%.

Table 11.

Dose	Risk of Obesity
Never breastfed	4.5%
Average breastfed	2.8%
2 months breastfed	3.8%
3-5 months breastfed	2.3%
6-12 months breastfed	1.7%
>12 months breastfed	0.8%

Source: Von Kries et al. *BMJ* 319:147, 1999

In spite of the benefits of breastfeeding, US rates are well below the Healthy People 2010 objectives; in Rhode Island, the breastfeeding rates are even lower (Table 12).

Table 12. Breastfeeding rates and duration, US and RI, 2003

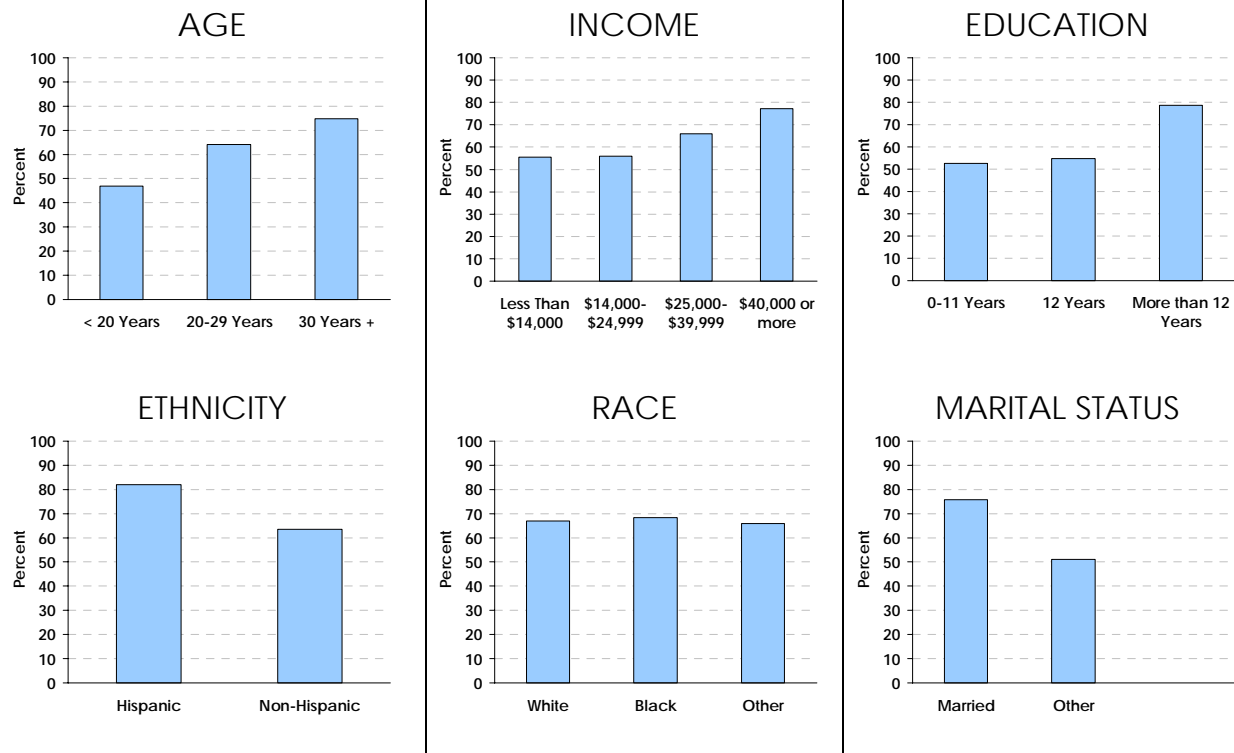
Breastfeeding Rates	Ever Breastfed	Breastfeeding at 6 months	Breastfeeding at 12 months
United States	71%	36%	17%
Rhode Island	67%	35%	17%
Healthy People 2010 Target	75%	50%	25%

Source: National Immunization Survey

Rates of breastfeeding increase with income, age and educational level of the mother. African American women have significantly lower breastfeeding initiation and duration rates than white or Hispanic women. Rates of breastfeeding are highest among college-educated women, and those aged 35 years and older. The lowest rates of breastfeeding are found among mothers whose infants are at highest risk for poor health and development: mothers aged 21 years and younger and mothers with low educational levels. However, many of these groups have shown the greatest increase in breastfeeding rates since 1989.

Among RI mothers who gave birth in 2003, there are disparities in the prevalence of breastfeeding by age, household income, race and ethnicity, and marital status. Breastfeeding rates increase with age, income, education, and being married, and are higher among Hispanics than non-Hispanic women (Figure 12).

Figure 12. Estimated percentage of RI mothers who ever breastfed their infants, by age, household income, education, ethnicity, race, and marital status, 2003



Source: 2003 RI PRAMS

Calories Out

Physical inactivity contributes to the other side of the energy balance equation. Screen time is high among the factors that encourage inactivity.

Too Little Activity

A sedentary lifestyle has been linked to overweight and obesity. First, without physical activity, most people do not burn enough calories to prevent weight gain. Second, valuable muscle tissue is lost without physical activity. The more muscle tissue a person has, the more calories he or she is able to burn, even at rest. Losing muscle tissue also decreases the body's calorie needs, making it easier to gain weight.

Table 13. Physical activity recommendations for adults.

30 minutes of moderate physical activity on five or more days a week

- OR -

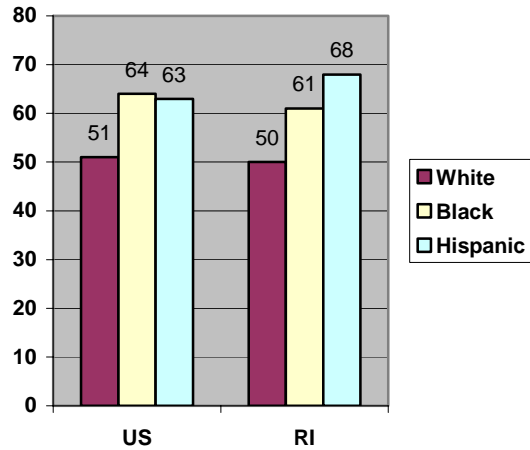
20 minutes of vigorous physical activity on three or more days a week

Source:

Over half of the US adult population does not meet the recommendations for moderate physical activity, and 74% of adults do not meet the recommendation for vigorous activity (Table 13). Physical activity levels vary among population groups. More blacks and Hispanics are not meeting the recommendations than whites (Figure 13). More adults with the lowest incomes and education levels do not meet physical activity guidelines compared to those with high incomes and education levels (Figures 14 & 15).

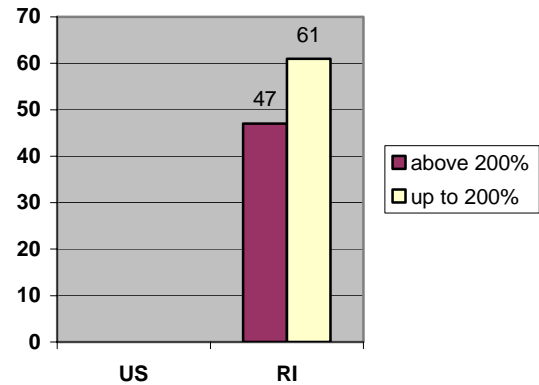
In Rhode Island, 52% of adults do not meet national physical activity recommendations. While Rhode Island has met the *Healthy People 2010* objective for physical activity (Appendix C), large disparities in physical activity still exist among population groups. Hispanics, people with incomes below 200% of the Federal Poverty Level, people with less education, and people with disabilities are the least active (Figures 13, 14, 15 & 16).

Figure 13. Percentage of US and RI adults not meeting physical activity guidelines by race



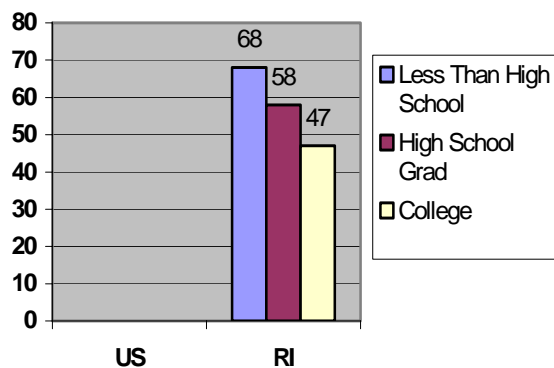
Source: 2003 BRFSS

Figure 14. Percentage of US and RI adults not meeting physical activity recommendations by poverty level (US data forthcoming)



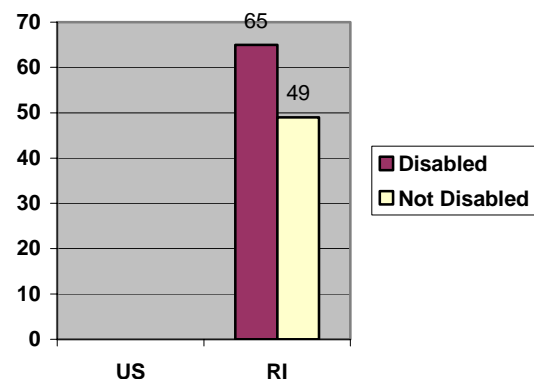
Source: 2003 BRFSS

Figure 15. Percentage of US and RI adults not meeting physical activity recommendations by education level (US data forthcoming)



Source: 2003 BRFSS

Figure 16. Percentage of US and RI adults not meeting physical activity guidelines by disability status (US data forthcoming)



Source: 2003 BRFSS

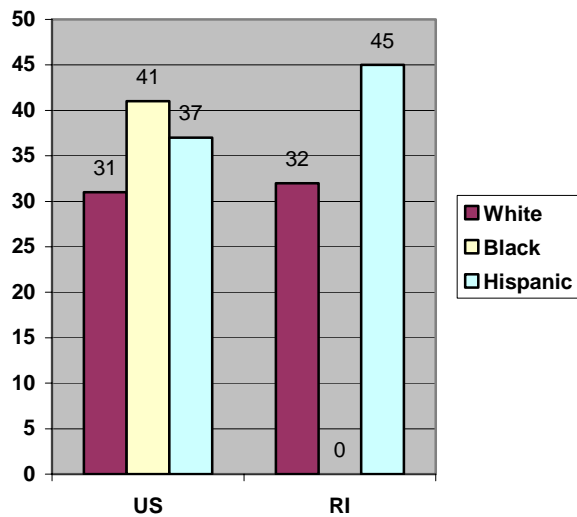
While the current guidelines for physical activity for children and adolescents recommend 60 minutes of activity, one-third of US high school students do not get even 30 minutes of physical activity daily (Table 14). As in adults, physical activity levels vary among population subgroups. In Rhode Island, 35% of high school students do not even get 30 minutes of activity, and the prevalence of physical inactivity is higher among Hispanics and girls (Figure 17 & 18).

Table 14. Physical activity recommendations for adolescents and children

60 minutes of moderate physical activity most days of the week, preferably daily

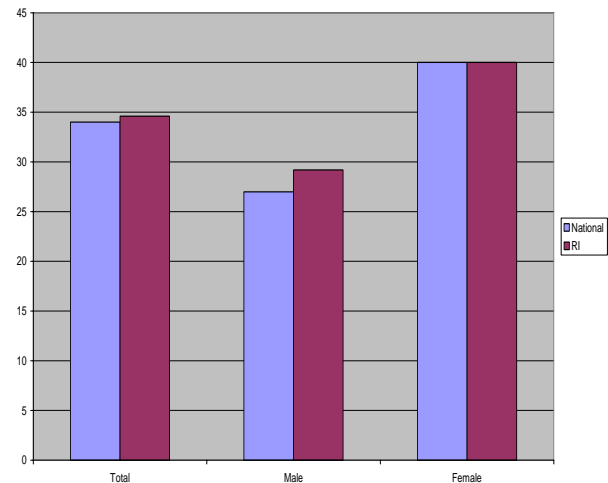
Source:

Figure 17. Percentage of high school students who do not get 30 minutes of physical activity daily, by race and ethnicity



Source: YRBSS, 2003

Figure 18. Percentage of high school students who do not get 30 minutes of physical activity daily, by gender (Graph will be edited for clarity).



Source: YRBSS, 2003

Too Much Screen Time

Many studies link screen time and weight status. An estimated 25-60% of the increase in obesity and overweight in recent years may be attributable to screen-time. It even appears that each hour of additional screen time corresponds to an increase in the risk of overweight. Adding a television to a child's room further increases their risk of overweight. With an increasingly sedentary society, emphasis should be placed on reducing screen time especially among children who are developing lifetime physical activity habits.

Screen time is thought to contribute to obesity through 3 main mechanisms: 1) by displacing physical activity, 2) by decreasing metabolic rate, and 3) by increasing calorie consumption. Although not all studies have shown a correlation between television viewing and weight status, numerous studies have shown that TV watching and obesity are linked.

Screen time can contribute substantially to the amount of time children spend being inactive, by reducing the amount of time available for physical activity. Research suggests that children who spend the most time in front of a screen are the least active. In one study, children who spent more than 2 hours a day watching TV played outside under 2 hours, while children who watched less than 2 hours a day played outside for 2.25 hours. Not surprisingly, increases in screen time have also been linked to overweight and obesity. National data show that the prevalence of obesity is highest among children who watch four or more hours of TV per day and lowest among those who watch less than one.

Some research indicates that the excessively sedentary nature of screen time may undermine the benefits of physical activity by actually decreasing energy expenditure. One study found that children expended more energy at rest than they did while watching TV, adding up to an estimated decrease of 200 calories per day. This theory has also been tested in adults. One study found that TV time was positively associated with obesity more than other sedentary behaviors such as sitting at work.

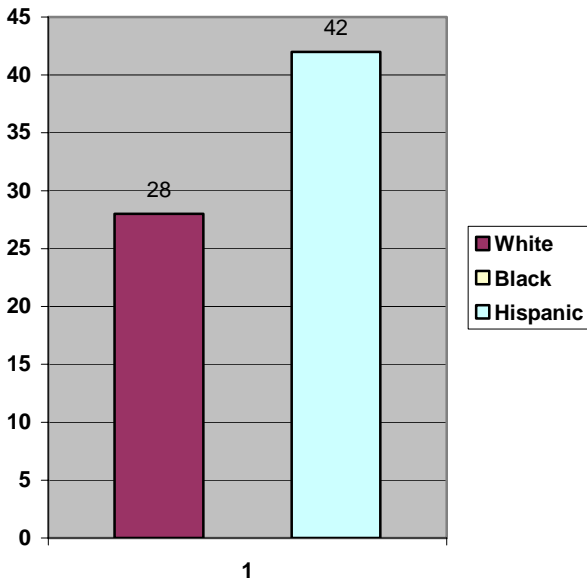
In addition to the sedentary nature of TV viewing, children are also influenced by their exposure to food advertising, which encourages the consumption of high fat, high calorie foods. Children's shows advertise food once every five minutes. Exposure to these advertisements makes it more likely that children will choose the high fat, high calorie foods advertised, that they will ask their parents for these foods, and that their parents will buy these foods.

Too many children are spending too much time in front of a screen. While many national organizations recommend that children over age 2 watch two or fewer hours of television per day, US children spend approximately 4.5 hours a day in front of a screen. Forty-six percent of elementary school students, 51% of middle school students, and 45% of high school students watch 2 or more hours of TV on the average school day. Thirty-eight percent of US high school students are watching three or more hours of television daily. Even very young children are watching too much TV. One study found that 41% of 24-36 month olds are watching more TV than recommended.

Almost a third (32%) of RI high school students are watching three or more hours of TV per day. As is seen nationally, TV watching is disproportionate among different population groups in

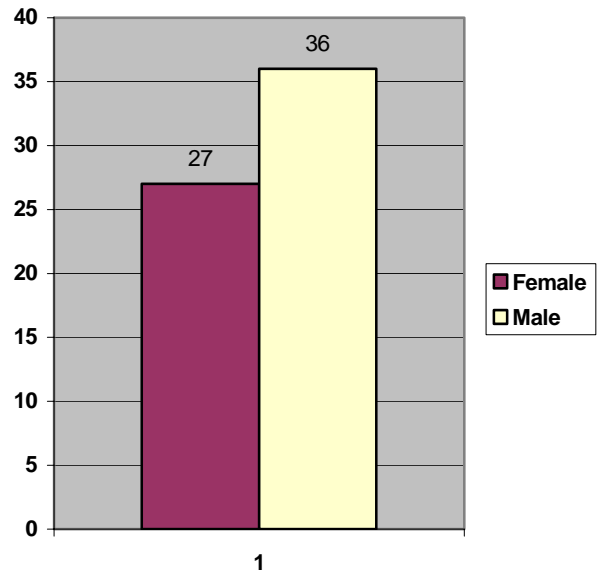
Rhode Island, with a larger proportion of Hispanic high school students watching 3 or more hours of TV than whites (Figure 19). and more boys watching 3 or more hours of TV than girls (Figure 20).

Figure 19. Percentage of RI high school students who watch 3 or more hours of TV by race and ethnicity



YRBS, 2003

Figure 20. Percentage of RI high school students who watch 3 or more hours of television by gender



YRBS, 2003

Shifting the Balance

So why don't people adopt healthy habits? The behaviors causing the obesity epidemic are well known and preventable: physical inactivity and unhealthy diet. Despite widespread awareness, most Americans still do not practice healthy behaviors that can prevent obesity.

For individuals to make behavior changes, they need awareness, knowledge, skills, motivation and the belief that they can make change. However, there is a much bigger problem. Over the past few decades, lifestyles have changed in ways that make it more difficult to be physically active and to eat healthy foods. To reverse the current trends in overweight and obesity, people not only need to be educated about physical activity and nutrition and motivated to make lifestyle changes, they also need environments that support these healthier options.

V. The Culprit

Unhealthy Environments

The current epidemic of obesity is caused largely by an environment that promotes excessive food intake and discourages physical activity.

—JO Hill & JC Peters, *Environmental Contributions to the Obesity Epidemic*

As recently as a century ago, virtually all babies were breast-fed; most meals were grown, prepared and eaten at home; people needed to be physically active to get from place to place; and generating income and maintaining households were physically demanding. As recently as 50 years ago, screen time was not an issue because there were no televisions, VCRs or videogames, nor were there as many timesaving devices in American households.

However, lifestyles have changed and so too has the environment. The current environment is characterized by an essentially unlimited supply of convenient, relatively inexpensive, highly palatable, energy-dense foods, coupled with a lifestyle requiring only low levels of physical activity for subsistence. Expenditure on foods prepared outside of the home now accounts for over 40% of a family's budget spent on food. Soft drink consumption supplies the average teenager with over 10% of their daily caloric intake. Portion sizes have increased dramatically. Fewer women are home with their children for the first year of life, and workplaces do not support nursing mothers. Fewer children walk to school, and adults and children make fewer walking trips to shop. Hectic schedules allow little time for recreational physical activity. Fewer jobs require physical activity, and are not accessible except by automobile. Schools are dropping recess and physical education and assigning more homework. Television viewing has increased. Neighborhoods and parks are perceived as unsafe for walking and playing. Community design discourages physical activity.

Instead of encouraging healthy choices, the 21st century environment in America promotes behaviors that lead to obesity. To reverse the obesity epidemic, this environment must be cured.

Supporting Poor Food Choices

The environment today not only makes unhealthy food choices the easy ones; it often makes them more affordable. Add to that an environment that bombards people with marketing messages and it is clear that individual behavior change will not work by itself. If the goal is long-term improvement in food choices and eating behaviors, the environment must change from one that promotes obesity-promoting foods to one that promotes healthy eating.

The following key environmental factors work against healthy eating:

- Hectic schedules and convenient foods,
- Consumer promotions for energy-dense foods,
- Large portion sizes and value marketing,
- Rising costs of healthy foods,
- Aggressive marketing of junk food to children,
- Unhealthy nutrition environments in schools,
- Limited access to healthy food in low-income communities.

Hectic schedules and convenient foods

Over the last half-century, family lifestyles have become much more hectic and time-pressured, resulting in a greater need for time- and labor-saving ways to feed families. With women's participation in the workforce increasing from 36% in 1960 to 58% in 2000, fewer families have an adult at home during the day with the time to prepare home-cooked meals. Children are rushed from school to sports to a variety of other activities and, on many nights, families never sit down to eat a meal together.

Americans needed quicker, more convenient ways to feed their families and this demand was met by the food industry in three ways:

1. An ever-increasing variety of prepackaged convenience foods
2. More fast food restaurants
3. More snack foods for "eating on the run"

Meals are now often eaten in the car, on the run. Children are popping prepackaged "quick meals" into the microwave and calling them dinner. If none of this happens, the fast food drive through is always ready to fill the gap. And, fill the gap it has.

Consumption of meals away from home has more than doubled, fast food consumption quadrupled for adults, quintupled for children and the number of fast food restaurants more than doubled to meet the demand. Production, purchase and consumption of convenience foods and snack foods has more than tripled.

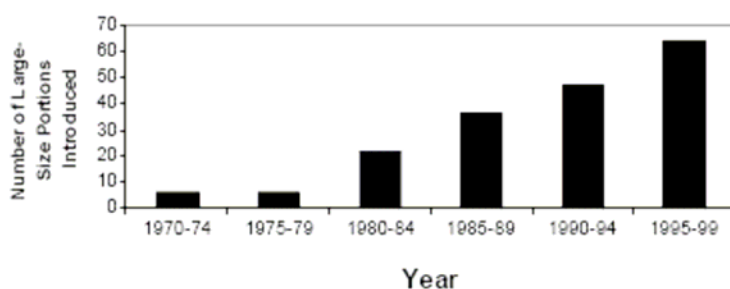
Consumer promotions for energy-dense foods

If recommendations to consume fewer calories have so little effect, it may be in part because of massive efforts by food manufacturers and restaurant chains to encourage people to buy their brands. Promotions, pricing, packaging, and availability all encourage Americans to eat *more* food. The food industry spends about \$11 billion annually on advertising and another \$22 billion or so on trade shows, supermarket “slotting fees,” incentives, and other consumer promotions. In 1998, promotion costs for popular candy bars were \$10 million to \$50 million, for soft drinks up to \$115.5 million, and for the McDonald’s restaurant chain just over a *billion* dollars. Such figures dwarf the National Cancer Institute’s \$1 million annual investment in the educational component of its 5-A-Day campaign to increase consumption of fruit and vegetables or the \$1.5 million budget of the National Heart, Lung, and Blood Institute’s National Cholesterol Education Campaign. American children are bombarded daily with dozens of television commercials promoting fast foods, snack foods, and soft drinks. Advertisements for such products are even commonplace in schools, thanks to Channel One, a private venture that provides free video equipment and a daily television “news” program in exchange for mandatory viewing of commercials by students and school district contracts for exclusive marketing of one or another soft drink in vending machines and sports facilities. Advertising directly affects the food choices of children, who now have far more disposable income than they had several decades ago and far greater influence on their parents’ buying habits.

Large portion sizes and value marketing

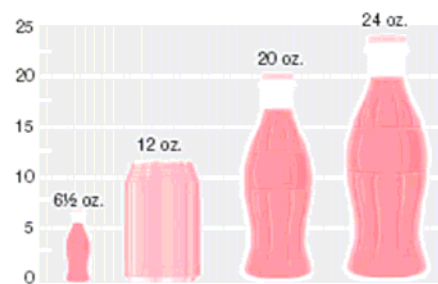
Over the last 30 years, portion sizes have increased everywhere—from national restaurant chains, to cookbooks, to the diameters of cup holders in automobiles. Current portions are up to eight times larger than recommended sizes. Between 1977 and 1996, food portion sizes increased both inside and outside the home for all food categories (except pizza), with the largest portion sizes prevalent at fast food establishments (Figure 21). Serving sizes of soda have increased dramatically from 6.5 ounces in the 1950’s to over 20 ounces today (Figure 22).

Figure 21. Introduction of new, larger portions, 1970-1999



Source:

Figure 22. Growth in soda container size (oz.), 1950s–2000s



Source: Young LR, Nestle M. American Journal of Public Health 2002, vol. 92, pp. 246-249.

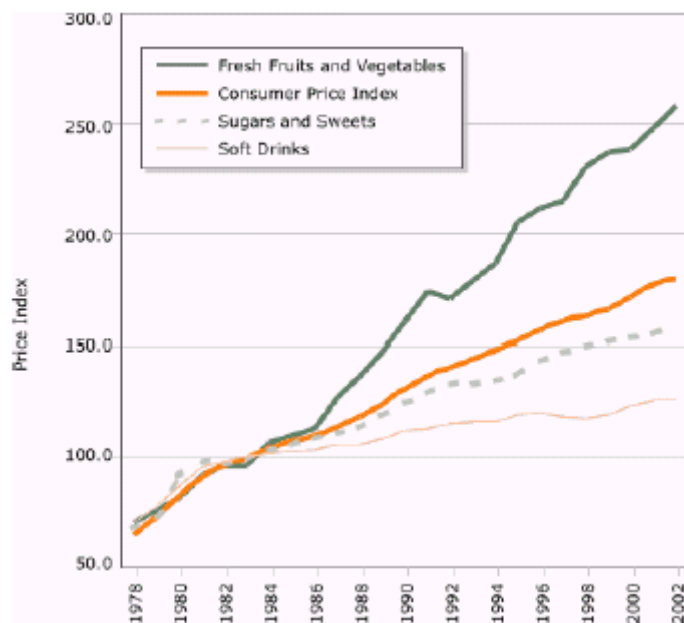
The trend in portion sizes parallels increases in overall calorie intake and rates of obesity and overweight. When people are served more food, they eat more food.

Making matters worse, many food service establishments now make it a bargain to choose the larger size. “Super-sizing”—the option to upgrade from a large order of fries or a soda to an even bigger one—both entices consumers to frequent a place where less money buys an extra large meal and encourages people to eat more. While value marketing is profitable for the food industry, it contributes to overeating for consumers. While offering larger portions may only increase the price a moderate amount, the real price of larger portions is higher calories, fat, and eventually, weight.

Rising costs of healthy foods

United States Department of Agriculture’s Economic Research Service reported that the cost of unhealthy food has been decreasing while the cost of healthy food has been increasing (Figure 23). This type of reverse incentive encourages the consumption of unhealthy foods and creates barriers to eating healthy foods.

Figure 23. Relative price changes for fresh fruits and vegetables, sugars and sweet, and soft drinks, using the period 1982–1984 as the baseline (index=100), 1978–2002.



Data Source: Food Consumption Data System, Economic Service, US Department of Agriculture.

Unhealthy nutrition environments in schools

Today, healthy eating in schools is the exception rather than the norm. School lunches fail to meet USDA standards or are prepared by fast food chains, and soda and high-fat snacks are available at all times in school vending machines.

School meals are currently failing to meet targets for recommended servings of fruits and vegetables, and few schools have adopted policies requiring schools to offer two or more servings of fruits and vegetables at all meals served. With the exception of California, no states require schools to offer fruits and vegetables in school stores and snack bars, and less than one in 50 schools require fruits and vegetables in vending machines. Because schools have decreased the amount of time available for students to eat lunch, many children choose to skip lunch or select foods they can eat quickly from snack bars or vending machines. Eighty-two percent of high school students report that lunch periods are too short, and 62% report that lunch lines are too long.

Most schools make high-calorie, low-nutrient “competitive” foods and beverages available to students outside USDA school meal programs. In both middle and high schools, 75% of beverage options and 85% of snacks were of poor nutritional quality. The most prevalent options are soda, imitation fruit drinks, candy, chips, cookies, and snack cakes; and the ready availability of these foods does not support students' ability to make healthy food choices. Competitive foods are served or sold in a variety of school venues, such as a la carte lines, snack bars, vending machines, school stores, school fundraisers (e.g. candy), bake sales and classroom parties and fundraisers. Nearly 98% of US high schools, 74% of middle schools and 43% of elementary schools have vending machines or school stores selling foods of low nutritional value.

Schools not only sell non-nutritious foods and beverages; they promote their consumption through vending machines, soft drink “pouring rights” agreements, branded fast food, and fundraisers, direct advertising, such as food and beverage ads in schools and indirect advertising, such as corporate-sponsored educational programs, sports sponsorships, contests and coupons, and advertisements on Channel 1.

Limited access to healthy food in low-income communities

Over the past few decades, the availability and affordability of unhealthy foods in low-income neighborhoods has increased and access to affordable healthy foods has decreased. This is associated with fewer supermarkets within walking distance, supermarket relocation to the suburbs, the lack of transportation to supermarkets offering a variety of healthy choices at affordable prices, and the proliferation of convenience stores that offer limited selections of healthy foods at higher prices. The result is that low-income families, by necessity, end up eating more foods high in energy density.

Barriers to Breastfeeding

Although women may be aware of the benefits of breastfeeding, there are many barriers that prevent women from choosing to breastfeed or to continue breastfeeding for the recommended amount of time. These barriers include the need to return to work, barriers in the workplace, lack of access to role models, peer support and family support, lack of education and accurate information, outdated maternity care practices, inadequate counseling by health care providers, inadequate insurance coverage, perceived social norms and marketing of infant formula.

Returning to Work

The most significant obstacle to breastfeeding duration is the mother's need to return to work. The intention to work full-time is associated with significantly lower breastfeeding initiation and duration rates and working outside the home is related to a shorter duration of breastfeeding. This barrier affects many women because among employed women with children under the age of three, approximately 70% work full time and one-third of mothers return to work within three months after giving birth, and two-thirds return within six months. African-American women, who have some of the lowest breastfeeding initiation and duration rates, are disproportionately affected because they are more likely than other women to return to work earlier (8 weeks) and to be engaged in jobs that make it more difficult to breastfeeding successfully.

Specific barriers that have been identified in the workplace include a lack of flexibility for milk expression in the work schedule, lack of accommodations to pump or store breast milk, concerns over support from employers and colleagues, and real or perceived low milk supply.

Lack of Access to Role Models, Support and Education

Peer and Family Support

A woman's ability to breastfeed her child successfully is hindered by a lack of role models and a lack of adequate support from those around her. The lack of peer support from other mothers, women's male partners, older female family members, and other family members can discourage women from breastfeeding, particularly in populations with lower breastfeeding rates. Sometimes, this lack of support is due to the family members' lack of education regarding breastfeeding benefits for the family; other times it is due to cultural beliefs or experiences.

Education and Information

Some women lack access to accurate, culturally appropriate information and education regarding breastfeeding and problems that may arise and this lack of access poses a barrier to successful breastfeeding and duration.

Health Care Barriers

Outdated Maternity Care Practices

Non-supportive hospital experiences and lack of support from health care providers in hospitals and maternity care facilities have been identified as significant barriers to successful breastfeeding, especially among African American women. Specific maternity care and hospital policies that pose barriers include the separation of mother and baby, supplementation, early discharge, inadequate follow-up and support in the first few weeks, the use of pacifiers and artificial nipples (bottle-feeding) and inadequate skilled breastfeeding education and support in the hospitals.

Inadequate Training of Health Care Providers

Lack of adequate support and education from health care providers can be a significant barrier to breastfeeding. Although health care professionals are generally supportive of breastfeeding in theory, many are ill-equipped or lack the confidence to assist and support the breastfeeding mother due to lack of accurate, evidence-based, culturally competent education regarding breastfeeding in health professional schools and continuing education programs.

Missed Opportunities to Promote and Support Breastfeeding

Studies have shown that physician's recommendations to breastfeed increases breastfeeding initiation and duration rates, yet many physicians miss opportunities to recommend and support breastfeeding prior to pregnancy, during pregnancy and at postpartum visits. These missed opportunities can result in decreased breastfeeding rates and duration.

Inadequate Insurance Coverage for Lactation Services and Equipment

The lack of insurance coverage for professional lactation services and breastfeeding equipment negatively affects a woman's ability to initiate and continue breastfeeding. In order to return to work and continue breastfeeding, women need to be able to express breastmilk and store it for future use, which requires having a quality breast pump. Many women, especially women with limited financial resources, do not have access to these breast pumps and this lack of access poses a significant barrier to continued breastfeeding.

Perceived Social Norms

Societal pressures or perceived norms may cause women to choose not to breastfeed or to do so for a short duration. Many women are embarrassed to breastfeed in public, to breastfeed longer than a year, or to teach children about breastfeeding because they perceive it to be unacceptable. The effect of perceived social norms on breastfeeding rates and duration is evident in infant feeding behaviors of immigrants to this country. First generation immigrants from countries where breastfeeding is the norm are more likely to breastfeed than are second-and later-generation women. This is partially due to attempts to acculturate into a society where bottle-feeding is perceived to be the norm. Thus, breastfeeding role models are lost with successive generations.

Promotion and Availability of Infant Formula

The marketing of infant formula negatively affects breastfeeding, particularly the distribution of free samples and educational materials promoting infant formula at health care facilities. These practices make formula feeding an attractive, affordable alternative to breastfeeding, especially for women with limited financial resources and preexisting concerns about breastfeeding.

Discouraging Active Living

The environment has made it increasingly difficult for people to be physically active. The major environmental contributors to low physical activity levels include:

- Labor-saving technological advances,
- Time constraints,
- Less physical activity in schools,
- Auto-friendly community design,
- Limited recreation areas,
- Safety concerns, and
- Media saturation

Labor-saving technological advances

The use of time and labor saving devices has eliminated the need for physical activity in many routine tasks. The use of these devices saves an estimated 700 plus calories per week, more than enough to contribute to weight gain. Among women, time devoted to household chores, shopping, and childcare has decreased from about 40 hours per week in 1965 to 27 hours per week in 1995, partly because of the use of devices such as dishwashers, washing machines, and vacuum cleaners.

Outside of the home, other technological advances have contributed to less activity. Most multi-story buildings have elevators or escalators, which are used more frequently than stairs. Stairwells are often marked with “emergency exit only” signs, are locked, or are poorly lit and maintained, further discouraging their use. The Internet lets consumers compare prices and purchase online, rather than walk around a shopping mall. Most stores have automatic doors, most homes have televisions with remote controls, and most fast-food restaurants (and banks and dry cleaners ...) have drive-through windows, eliminating the simplest of physical activities. Even the most common sources of children’s play are becoming more sedentary, with the increasing popularity of motorized bikes and scooters.

Time constraints

At the same time that Americans have engineered physical activity out of their lives, they have lost much of their free time. They have no time to fit physical activity back into their routines. More US adults are working over 49 hours a week, and there are more dual earner families and single working parents than ever. Not only are Americans spending more time on the job, they are spending more time getting to work. Increased auto ownership has contributed to increased traffic and longer commutes. Additionally, jobs have moved from local communities into the cities making commute times even longer.

Children are also more scheduled. More children, especially those from low income families, are spending more time in structured settings than in the past. After-school programs, additional

homework, and organized activities, such as lessons and tutoring, have limited children's time for unstructured play.

As a result, today's families have less time for structured and recreational physical activity. What scarce free time adults do have is often spent watching TV or on the computer, activities that are relaxing, entertaining, inexpensive, and require no planning. Parents may find it difficult to entertain and supervise their children while keeping up with other responsibilities and feel that TV, video or computer games, and the Internet are convenient entertainment for children.

Less physical activity in schools

Much of the time students spend in school is sedentary and the opportunities for physical activity, in the form of structured physical education and unstructured recess, are limited.

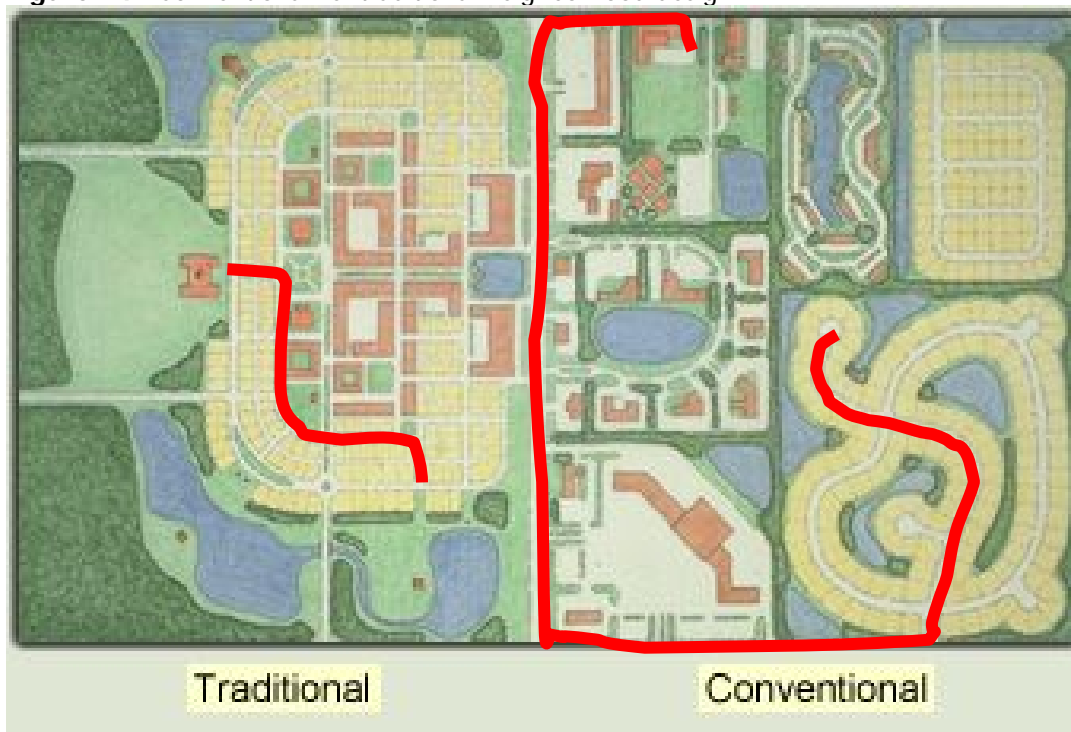
Participation in physical education among high school students decreased significantly between 1991 and 1995 and has remained low since then. When children do participate in PE it is for fewer days per week than is recommended. Only 8% of elementary schools, 6% of middle, junior and senior high schools provide daily physical education for all students during the entire school year. Today, only 28% of HS students nationally, and 21% of RI HS students, attend PE daily. And when those children are in physical education classes, 20% do not get even 20 minutes of physical activity. One reason for many schools decreasing physical education is budget constraints. Schools rarely have sufficient resources for trained physical education teachers and adequate facilities needed for physical education programs. A second reason is an increased focus on standardized testing. Schools are replacing PE time with additional academics.

Recess, another key opportunity for young children to be active, is being abolished in many school systems. More than a quarter of all elementary schools do not provide regularly scheduled recess for all students in kindergarten through fifth grade. The need for more instructional academic time, safety and liability concerns, lack of staff to supervise children, as well as fears that recess will disrupt work patterns, all contribute to decisions cut recess. One Atlanta superintendent described the situation this way: "We are intent on improving academic performance. You don't do that by having kids hanging on monkey bars."

The extension of the school day with before- and after-school programs focused on academics has also contributed less time for children to be physically active. Before- and after-school programs tend to standardize children's activity. In many programs children's time is spent at a desk, doing homework. When there is time for recreation, it is often spent playing board games or computer games, and having a snack. Another option for after-school time is also disappearing—after-school sports. In many communities, budget constraints have resulted in sports being cut or parents having to pay for their child to participate.

Auto-friendly community design

Current community development patterns have increased dependence on cars and decreased the ability to walk or bike for transportation.

Figure 24. Conventional vs. traditional neighborhood design

Source:

A traditional neighborhood (Figure 24. Left side) locates houses, schools, shops and offices in close proximity to one another. The street design creates a network with multiple routes to destinations. Children have a short, direct route to school (Figure 24, Left side, Red line), don't need to cross any wide, busy roads, and can comfortably walk or bike. In contrast, the design of conventional communities (Figure 24. Right side) locates residential, commercial and school buildings in separated areas that are often only connected by larger main roads. These main roads are wide and straight, allowing more traffic to move at higher speeds. Children who live in the residential subdivision on the lower right part of the diagram must be driven to school because the route (Figure 24, Right side, Red line) is too dangerous or too long. The same is true of most other trips families want to take.

Between 1977 and 2001, walking trips declined while driving trips increased (Figure 25). While $\frac{1}{4}$ of all trips are one mile or less, $\frac{3}{4}$ are made by car. In 2001, less than 1% of all trips were made on foot, while 87% were made by personal vehicle.

Studies show that people who live in more traditional neighborhoods with a mix of shops and businesses within easy walking distance have a 35% lower risk of obesity. This is partly due to greater community

Figure 25. Walking, bicycling and auto trips in the United States

Placeholder for graphic

Source:

walkability as a result of denser development, an interconnected network of streets, commercial and residential areas in close proximity, access to public transportation, and a structurally safer walking environment (street lights, sidewalks).

Limited recreation areas

People tend to get more physical activity if they have access to places to be active (e.g. parks, basketball courts, or trails) and if their neighborhoods provide a convenient, high quality environment for outdoor activity. The closer people live to recreational facilities, the more likely they are to use them. People in communities with the best access to a variety of built and natural facilities for recreation are 43% more likely to get 30 minutes of physical activity on most days than those with poor access. People who don't have access to safe, convenient and affordable areas for physical activity are unable to act on health advice that they receive from doctors, friends, or through the media. Access is important for children as well, since access to play spaces and facilities is positively related to physical activity among youths of all ages. Recreational areas like trails also improve community design by safely linking existing resources such as schools and neighborhoods to parks, waterfronts, and other facilities.

Safety concerns

Neighborhood safety affects physical activity levels. In one study, only 27% of people who don't have access to safe places to walk met physical activity recommendations, compared to 43% of people with access to safe places to walk.

Outdoor play is associated with higher physical activity levels among children. However, research has shown that parents are increasingly more likely to restrict their children's use of public spaces because of fear for their safety. Parents report that safety considerations are the most important factor in selecting play spaces for their young children. Concerns about "traffic danger" and "stranger danger" are reported as important influences on the decisions by parents to drive their children to school or not allow them to walk to the neighborhood park. Additionally, fear of crime is a concern for parents.

This issue is particularly important for children from low-income families who often live in neighborhoods perceived as less safe. Children from families with lower household incomes spend significantly more time in front of the TV or game screen than children with greater household incomes. Children who live in neighborhoods that are deemed unsafe for outdoor play are likely to spend out-of-school time indoors, watching TV or playing video games.

Old: Safety concerns are often cited as barriers to physical activity.[Princeton Survey Research Associates. Prevention magazines children's health index. *Prevention* 1994 Sep]

Media Saturation

TV viewing has become an easier option than physical activity. The average child today has access to multiple television sets with dozens of channels, a VCR or DVD player, a video game

console, and a computer with Internet access. Ninety-eight percent of children live in homes with at least one TV set. The average family has four. Almost half of children have a TV in their bedroom, which is particularly associated with overweight. Other forms of media are also making their way into children's bedrooms: 39% have a video game console, 30% have a VCR, 20% have a computer, and 11% have Internet access. This "media saturation" has led to the development of physically inactive interests and pastimes. Rather than being active, children often come home and watch TV, play videogames, or surf the web.

Limited Obesity Prevention in Healthcare

Until recently, healthcare providers largely focused on treatment of obesity, rather than obesity prevention. Similarly, quality improvement and accrediting organizations do not include obesity screening and prevention service in routine clinical practice and in quality assessment measures related to healthcare.

Lack of training in and reimbursement for preventive strategies, such as nutrition and physical activity counseling, combine to severely limit the influence of the healthcare sector on obesity prevention.

Limited Training for Health Care Professionals

Training for providers on obesity prevention, nutrition and physical activity is limited. Instruction on these topics generally has not been included in medical school or primary care residency training curricula. Due to a lack of knowledge and skill in this area, providers are not confident in their abilities to counsel their patients on these topics. The most common areas of self-perceived low proficiency were in the use of behavioral management strategies, guidance in parenting techniques, and addressing family conflicts. A recent Institute of Medicine Report confirms the need for expanding behavioral and social-science content in medical schools' curricula.

Even though the American Academy of Pediatrics and the US Preventive Task Force recommend that clinicians use BMI to screen all patients for obesity, a survey of 940 pediatric healthcare providers found that more used clinical impression and the older weight-for-age and height charts than used BMI or BMI percentiles.

Lack of Health Care Coverage

One of the greatest barriers to effective obesity prevention, assessment, counseling and treatment in healthcare is the lack of insurance coverage for preventive services.

Fixing Environments

The environments around people impact the behavioral choices they make. Together with behavioral targets, environmental factors are large contributors to overweight and obesity and provide the greatest opportunity for actions and interventions for prevention and treatment.

VI. The Solution

Rhode Island's Objectives

Obviously individual behavioral change lies at the core of all strategies to reduce overweight and obesity.

Successful efforts, however, must focus not only on individual behavior change, but also on group influences, institutional and community influences, and public policy. Actions to reduce overweight and obesity will fail without this multidimensional approach. Individual behavioral change can occur only in a supportive environment with accessible and affordable healthy food choices and opportunities for regular physical activity.

—David Satcher, MD, PhD, US Surgeon General, *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity 2001*

The complex environmental and behavior factors influencing rising obesity rates make prevention complicated. However, in light of the difficulty and mostly unsuccessful nature of obesity treatment, the dramatic increase in the prevalence of adult and childhood obesity requires that the focus must change to prevention.

The following sections outline Rhode Island's long-term, intermediate, and short-term objectives for obesity prevention, addressing the environmental and behavioral causes of this massive problem. An overview of supporting evidence and recommendations follows the selected objectives. Table 15 outlines the criteria used to select this plan's objectives.

Table 15. Criteria used to select Rhode Island's objectives

- | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Evidence-based: Firmly grounded in the best science available; these objectives are either proven effective or highly promising to increase healthy behaviors and decrease obesity. 2. Theoretically sound: A logic model must link the strategy to the intended goal. If a strategy is theoretically sound, but not evidence-based, outcome, rather than process evaluation, must be included. 3. Recommended: These objectives are recommended by leading organizations in the fields of physical activity, nutrition and breastfeeding. 4. Related to obesity and chronic disease prevention: Strategies that are clearly related to preventing obesity will be ranked highly. 5. Population-based: Since the focus of the plan is on policy and environmental changes to foster a reduction in obesity, strategies should be population-based. 6. Broad Impact: Strategies affecting a large portion of the population have the potential for greater impact in reducing obesity than those affecting a smaller portion. 7. Measurable: Objectives must be measurable to know how successful a particular strategy is in helping to meet an objective. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Source:

In addition to objectives, “Ideas for Implementation” are listed for each set of objectives. These ideas provide the reader with interesting examples of possible interventions. These ideas are not a substitute for specific strategies and action plans, the development of which is discussed in “The How” section that follows.

Long Term Objectives

Objective I By 2012, reduce the proportion of adults who are overweight or obese (BMI > 25) to ____%.

Baseline

56% of RI adults are overweight or obese (Source: BRFSS, 2004)

Objective II By 2012, reduce the proportion of adolescents and children who are at risk of overweight or overweight (BMI > the 85th percentile CDC Growth Charts) to ____%.

Baseline

30% of adolescents, ages 12–17, are at risk for overweight or overweight (RI HIS, 2004).

47% of children, ages 6–11, are at risk for overweight or overweight (RI HIS, 2004).

42% of WIC preschoolers, ages 2–5, are overweight or at risk of overweight (RI WIC Program, 2003).

Objective III By 2012, eliminate racial and ethnic disparities in overweight and obesity.

Baseline

Data source to be determined

Rationale

Obesity prevention interventions have been proven effective at improving health, decreasing the impact of chronic diseases, and improving the quality of life. The plan's long-term objectives target obesity rates among adults, adolescent and children, as well as health disparities in obesity rates and obesity-related health problems. As discussed previously, higher rates of obesity exist among racial/ethnic groups, women, and people with lower incomes. It is essential that that these disparities be addressed so that all Rhode Islanders reap the benefits of healthy eating and active living.

Intermediate and Short-term Objectives

The long-term objectives will be achieved by changing behaviors that contribute to obesity and sustaining those changes. CDC has identified four priority risk behaviors that contribute to energy imbalance and, therefore, to the obesity epidemic:

- Poor nutrition
- Decreased physical activity
- Increased screen time
- Low rates and duration of breastfeeding

These priority behaviors have been translated into intermediate behavior-change objectives. To achieve behavior change, short-term objectives, focusing on policy, environment, and individual level change, will be carried out in the four channels: schools & childcare, communities, worksites, and healthcare (Table 16, next page).

Schools & Childcare

Schools, before- and after-school programs, and childcare programs are poised to play a significant role in preventing and decreasing childhood overweight and shaping the current and future health of the nation's citizens. A large number of children spend a large portion of their time in these settings:

- Children spend about 7 hours/day and nearly 2,000 hours/year at school.
- 18% of RI youth, grades K-12, attend before- or after-school programs and spend an average of 10 hours/week in this care.
- 61% of the 19 million US pre-schoolers are in some form of childcare.

Schools, before- and after-school programs, and childcare programs offer the opportunity to change behaviors among children, families, and staff around nutrition, physical activity, and breastfeeding. Since many children eat as many as two-thirds of their meals and snacks in these settings, the quality of the food served has a significant impact on children's overall nutritional status. Well-trained teachers and staff can provide safe and fun physical activity instruction and play, an opportunity that may not exist outside the safety of these settings. With more than 51% of infants and toddlers being cared for by someone other than their parents for some time each day, childcare providers play a vital role in supporting a mother's continuation of breastfeeding.

In addition to individual level changes, these settings are ideal for changing social norms through education around nutrition, physical activity, breastfeeding and screen time targeted to the youngest members of society. These settings also have the ability to promote behaviors change among families and staff.

Rhode Island is in the process of creating school infrastructure to facilitate these changes. A 2005 RI law requires each district's school committee to create a school health and wellness subcommittee. The subcommittees will develop a plan for the district's health and physical education curriculum and nutrition and physical activity policies to enhance the health and well being of students and employees.

Communities

Communities have important roles to play in reducing of the prevalence of obesity by ensuring access to healthy foods, opportunities for physical activity, and social support and resources for breastfeeding. Intervening in communities offers opportunities to change social norms about eating, physical activity and breastfeeding, a needed step in impacting obesity rates. Changes in communities support changes in individuals (knowledge, skills, and awareness) and changes in other settings (schools, worksites and healthcare).

In addition to Rhode Island's 39 cities and towns, there are numerous communities of people sharing common interests. Community institutions, organizations, and groups, including religious groups, cultural organizations, unions, clubs, professional associations, community action groups, sports groups, voluntary health agencies, and social service groups have important roles in increasing the knowledge and skills of their members and creating healthy environments for their members. Community groups are particularly useful in reaching high risk groups, such as economically disadvantaged and rural and minority racial and ethnic populations, with local, low-cost, culturally-appropriate programs that fit the lifestyle of community residents.

Because of their established credibility and trust, community-based organizations can educate the public about health-related issues, establish these issues as legitimate community concerns, and stimulate productive public discussion about them. Members of these organizations can also influence the attitudes of other community members by speaking at group meetings, in public forums, or to the media. Community organizations are often "back-doors" to reaching business leaders and elected officials. Those leaders can lead change in community health conditions and norms, health policies, and economic incentives for healthy behavior.

By using such community organizations as channels for interventions, prevention programs may garner support from community leaders and gain access to the resources of the organizations, both of which help ensure the programs' long-term viability.

Worksites

With most Americans spend much of their day at work, worksites have the potential to make a difference in the health of a majority of adults through individually focused physical programs, social networks, facilities, and policies that support individual behavior change. Therefore, worksites are an ideal channel for obesity prevention and control efforts.

Worksites also provide an underutilized opportunity to increase physical activity, improve nutrition, and increase breastfeeding rates. Worksites can provide employees with healthy foods, opportunities for physical activity, and an environment that supports these healthy lifestyle decisions. Worksites are ideal settings for breastfeeding interventions because women with infants and children are the fastest growing segment of the U.S. labor force. Women of reproductive years (22 to 44 years old) currently comprise 74% of the total workforce.

For employers, health promotion is “good business” because, over time, these programs enhance health, morale and productivity and decrease absenteeism, turnover and training costs.

Worksite interventions can also reach beyond family members and the broader community. Large employers can establish supportive relationships with local schools to promote programs that benefit students. Both large and small businesses can participate in community interventions and support changes in community policy.

Healthcare System

Healthcare settings offer opportunities for obesity prevention. Most people interact with the healthcare system at least once a year.

Healthcare providers—physicians, nurses, and other clinicians—can be influential in preventing obesity. As advisors to children and adults, healthcare providers have the authority to elevate patient concern about obesity and can make recommendations on dietary intake, breast feeding, physical activity and screen time.

Professional schools, postgraduate training programs, and continuing education programs offer an opportunity to provide up-to-date information and training to ensure that clinicians have the knowledge, skills and confidence necessary to provide obesity prevention assessment, counseling and treatment.

As part of the healthcare system, third party payers can improve access to obesity screening, nutritional and physical activity counseling and weight management programs by expanding coverage of these services. Insurers can also support community coalition efforts to increase physical activity and nutrition.

Nutrition Objectives

Objective 1	Improve the nutritional quality of diets and decrease excessive caloric intake.
Objective 1a	By 2010, __% of adults, adolescents and children will eat five or more servings of fruits and vegetables per day. <u>Baseline</u> Data source to be determined
Objective 1b	By 2010, decrease the average daily consumption of sugar-sweetened beverages among adolescents and children to __ ounces per day. <u>Baseline</u> Data source to be determined
Objective 1c	By 2010, __% of adults, adolescents and children will meet the recommended daily intake for total and saturated fat. <u>Baseline</u> Data source to be determined

Rhode Islanders are consuming too many calories, too many high-fat, high-sugar, energy dense foods and beverages, and too few nutrient-rich foods low in energy density. The end result is energy imbalance and weight gain. To restore energy balance, the number of excessive calories consumed must be reduced and energy-dense foods and beverages must be replaced with healthier choices that are lower in energy density.

The following three behavior change strategies hold the greatest promise for helping Rhode Islanders achieve and maintain healthy weights: 1) Increase consumption of fruits and vegetable, 2) Decrease consumption of sugar-sweetened beverages, and 3) Decrease consumption of excess fat.

More Fruits and Vegetables

Rationale

Replacing foods of high energy density with low energy-dense fruits and vegetables will increase feelings of satiety (fullness) and, therefore, decrease the total number of calories consumed. Fruits and vegetables should be *substituted* for high energy dense foods, not simply added on to a person's existing diet (e.g., snacks such as chips and cookies should be replaced with a whole apple or mini carrots, or a turkey sandwich should have less turkey and more lettuce, tomato, and other vegetables added).

Evidence Base

Studies have confirmed that when people eat more fruits and vegetables, they feel full faster and consume fewer calories. Studies have also shown that higher body weights are associated with lower fruit and vegetable intakes and lower body weights are associated with higher fruit and vegetable intakes.

Who Recommends It

The Centers for Disease Control, the National Cancer Institute, the American Dietetic Association, the Institute of Medicine, and the *Dietary Guidelines for Americans 2005* recommend that Americans increase their intake of fruits and vegetables. The *Dietary Guidelines for Americans 2005* recommend consuming a colorful variety of fruits and vegetables and encourage daily consumption of 2 ½ to 6 ½, or 5-13 servings, (up from 5-9 servings), of fruits and vegetables per day. In order to meet this recommendation, most Americans need to triple their current intake.

Less Sugar-Sweetened Beverages***Rationale***

Soft drinks provide enormous amounts of refined sugars and calories to a nation of people already not meeting Dietary Guidelines and experiencing an epidemic of obesity. Reducing sugar-sweetened beverage consumption will help achieve energy balance by decreasing the total number of calories consumed.

Children and adolescents have been chosen as target groups because their consumption of sugar-sweetened beverages has skyrocketed over the past few decades, comprises too large a proportion (10%) of their total daily calories, replaces milk and other healthful beverages and predisposes them for premature development of chronic diseases and other health problems.

Evidence Base

Recent studies "...provide strong, scientifically sound evidence that excess calories from soft drinks are directly contributing to the epidemics of obesity and type 2 diabetes and that "...reducing sugar-sweetened beverage consumption may be the best single opportunity to curb the obesity epidemic." Several intervention studies have shown that decreasing consumption of sugar-sweetened beverages does, in fact, result in weight loss; however, more long-term, controlled, population-based studies are needed.

Who Recommends It

The Institutes of Medicine, the American Academy of Pediatrics, the American Medical Association's Council on Foods and Nutrition, the American Dietetic Association, the Centers for Disease Control, and the *Dietary Guidelines for Americans 2005* all recommend that children and adolescents decrease their consumption of sugar-sweetened beverages.

Less Excess Dietary Fat

Rationale

Americans are consuming excessive amounts of fat, especially in the form of added fat from fast food and high-fat convenience and snack foods. Reducing fat intake will lower the energy density of diets, increase feelings of satiety (fullness) and, therefore, decrease the total number of calories consumed.

Evidence Base

A review of the results from 28 clinical trials confirms that reducing fat consumption will, in fact, result in decreased caloric intake and eventual weight loss.

Who Recommends It

The National Heart, Lung and Blood Institute (NHLBI), the American Cancer Society, the American Academy of Pediatrics, the Institute of Medicine and the Dietary Guidelines for Americans, 2005, all recommend that Americans decrease their fat consumption, especially fast food and high-fat convenience and snack foods.

The *Dietary Guidelines for Americans 2005* recommend a total fat intake that is between 20-35% of calories for adults and between 25-35% of calories for children and adolescents, ages 4-18, and children, ages 2-3. The guidelines also recommend that no more than 10% of calories come from saturated fat and that the consumption of *trans* fats, found in most processed foods, fried foods and fast foods be kept to a minimum.

Nutrition in Schools & Childcare

School Meal Quality

Objective 1.1

By _____, ____ % of school meal programs will meet the *Dietary Guidelines for Americans 2005* for all meals served or sold.

Baseline

Data source to be determined

Rationale

In Rhode Island, schools can technically meet federal USDA guidelines if the **average intakes** of specific nutrients over a certain period of time are within acceptable ranges. What this means that many **individual** meals currently do not meet the *Dietary Guidelines for Americans 2005*. In order to ensure that all meals served are consistent with the guidelines, as voluntary, regulatory or legislative standards would need to be developed and mandated at the local school district level or the state level.

Who Recommends It

The Institute of Medicine and the Centers for Disease Control's *School Health Guidelines* recommend that **all** school meals sold or served in schools be in compliance with the *Dietary Guidelines for Americans 2005*.

Adequate Time for School Meals

Objective 1.2

By _____, ____% of schools will provide the recommended time for students to eat breakfast and lunch.

Baseline

Data source to be determined

Rationale

To ensure that students have enough time to eat nutritionally balanced meals in schools, policies to address school meal schedules and the amount of time for meals are imperative. An adequate time policy allows students at least 10 minutes to eat breakfast and at least 20 minutes to eat lunch, counting from the time they are seated. School districts need to ensure that policies are implemented that provide students with enough time to eat, at appropriate times of day, in a safe, comfortable dining area and that recess is not competing with meal times.

Who Recommends It

The Institutes of Medicine, the Centers for Disease, the United States Department of Agriculture, the American Public Health Association, the National Alliance for Nutrition

and Activity, the American Public Health Association, Action for Healthy Kids, the American Dietetic Association, the Society for Nutrition Education and the American School Food Service Association recommend that schools provide students with adequate time to eat school meals.

Fruits and Vegetables in Schools

Objective 1.3

By _____, ____% of schools will increase the amount of fruits and vegetables in school meal programs, stores or vending machines.

Baseline

Data source to be determined

Rationale

Replacing foods of high energy density with foods of low energy density, such as fruits and vegetables, will help students achieve and maintain healthy weights; however, it is difficult to do this if fruits and vegetables are not readily available in schools. The healthy choice needs to be the easy choice for students.

Evidence Base

Studies have shown that students eat more fruits and vegetables in schools when they are readily available and affordable. Results of school-based environmental interventions have shown that increasing the availability, reducing prices and providing point of purchase promotions are effective strategies for increasing fruit and vegetable intake in schools. A recent review of pediatric overweight concluded that the availability of subsidized fruit and vegetables in schools led to a significant increase in consumption.

Who Recommends It

The Institutes of Medicine, the Centers for Disease Control's *School Health Guidelines* and 5-A-Day Program, the United States Department of Agriculture, the American Public Health Association, the National Alliance for Nutrition and Activity, the American Public Health Association and Action for Healthy Kids all recommend increasing availability of fruits and vegetables in schools.

Competitive Foods in Schools

Objective 1.4

By _____, ____% of school districts will adopt nutritional standards for all foods and beverages served or sold on the premises.

Baseline

Date source to be determined

Rationale

Selling low-nutrient food that competes with school meals contradicts nutrition education and sends the message that good nutrition is not important. Foods and

beverages sold or served on schools grounds or at school-sponsored events should meet nutritional standards and guidelines set by the school, district or state. These standards and guidelines should address a la carte offerings in the foodservice program; food and beverage choices in vending machines, snack bars, school stores, and concession stands; food and beverages sold as part of school-sponsored fundraising activities; classroom food used as rewards by teachers; corporate sponsored nutrition education materials; in-school advertising of food products; and product giveaways and refreshments served at parties, celebrations and meetings. By adopting and enforcing such standards, students' intake of low-nutritious foods should decrease significantly. In addition, providing and enforcing uniform standards for meals, foods and beverages on a school-wide basis establishes a social norm for healthy eating behaviors.

Evidence Base

There is evidence from research that children's dietary intake at school improves when there are fewer unhealthy choices available.

Who Recommends It

The Institute of Medicine, *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity 2001*, the American Dietetic Association, the Society for Nutrition Education, and the American School Food Service Association recommend that schools adopt nutritional standards for all foods and beverages served or sold on school premises.

Nutrition Education in Schools

Objective 1.5

By _____, ____% of schools will provide skill-based, behavior-focused nutrition education aligned with Rhode Island standards.

Baseline

Data source to be determined

Rationale

Nutrition education programs that have positive effects on eating behaviors focus on changing specific behaviors rather than on learning general facts about nutrition, employ active learning or experiential strategies, use developmentally appropriate instructional concepts at each grade level and devote adequate time and intensity to focus on behaviors and skill building. By implementing behavior-focused, skill-based nutrition education programs, students should develop the knowledge and skills necessary to adopt and maintain lifelong healthy eating behaviors.

Evidence Base

There is evidence that children who receive more nutrition lessons have more positive behaviors than those who receive fewer lessons, which highlights the benefit of a sustained and comprehensive approach. Studies show that 15 hours of behavior-focused nutrition education does bring about changes in knowledge, but 50 hours of education are

needed to bring about changes in attitude and behavior. The most effective nutrition education interventions are multicomponent in nature and involve changing the school environment at the same time as providing nutrition education to students.

Who Recommends It

CDC's *Coordinated School Health Guidelines*, the American Dietetic Association, the Society for Nutrition Education and the Action for Healthy Kids support implementing a preschool through 12th grade, culturally competent, behavior-focused, skill-based, nutrition education curriculum in schools.

Before- and After-School Programs

Objective 1.6

By ____, __% of schools will offer before- or after-school programs that provide healthy food and offer nutritional information about energy balance.

Baseline

Data source to be determined

Rationale

After school programs should only serve food consistent with the *Dietary Guidelines for Americans 2005*. These programs can provide daily opportunities for children to be involved in the preparation of healthy snacks and to learn about energy balance in a fun and participatory way.

Evidence Base

Pilot results from after-school obesity prevention programs in low-income African-American communities show promise in this regard, although further research and evaluation is needed.

Who Recommends It

The Institute of Medicine and the American Dietetic Association recommend that after-school programs provide healthful nutritional choices and provide students with the information to foster a better understanding of energy balance.

Meals and Nutrition Guidelines in Childcare

Objective 1.7

By _____, ____% of childcare programs will provide meals consistent with the *Dietary Guidelines for Americans 2005*.

Baseline

Data source to be determined

Objective 1.8

By _____, ____% of childcare programs will adopt nutritional guidelines for all foods served on the premises.

Baseline

Data source to be determined

Rationale

By ensuring that child care menus and snacks are consistent with the *Dietary Guidelines for Americans 2005*, caregivers ensure that while children are in their early and formative years, they have opportunities to eat healthy foods that promote proper growth and development and enable them to learn lifelong healthy eating behaviors. Foods and beverages sold or served in childcare programs should meet nutritional standards and guidelines set by the state.

Evidence Base

Although there has been much activity to improve nutrition in childcare centers, there have been very few evaluated programs and even fewer trials of interventions to specifically address and measure weight-related outcomes. There is some preliminary evidence that such interventions are effective from simple, short-term evaluations of community-based initiatives focused on improved food service and nutrition policies and practices. This is consistent with the conclusion reached by an overview report on opportunities for nutrition interventions in organized settings for children.

Who Recommends It

The Institute of Medicine and the American Dietetic Association recommend that all childcare programs achieve recommended benchmarks for meeting children's nutritional needs. In June 2005, the American Dietetic Association (ADA) published childcare benchmarks that lay out specific recommendations regarding menus, quantities, meal patterns, parental involvement, food groups, food preparation and safety, nutrition consultation and training for childcare providers, and nutrition education for children and parents. These guidelines should be followed in development of childcare program nutritional guidelines.

Nutrition Education in Childcare

Objective 1.9

By _____, ____% of childcare programs will provide nutrition education for parents and children.

Baseline

Data source to be determined

Rationale

Parents exert a powerful influence on their children's eating habits at home, are rarely involved in the nutrition program in childcare programs, and often are unaware of basic concepts of nutrition. As more and more parents rely on child care providers to share the parent's traditional role of 'gatekeeper' on their children's nutrient intake, it is important that steps be taken to help parents become knowledgeable about and involved in the nutrition program at the child care facility. To the extent possible, parents should be engaged in helping to plan and implement the nutrition education component of the childcare program. Every child should also have opportunities to learn about food, food sources, nutrition and the link between nutrition and health. By providing nutrition education for both parents and children, childcare programs will help ensure that children begin developing lifelong healthy eating behaviors at an early age.

Who Recommends It

The American Dietetic Association in its 2005 Benchmarks for Nutrition Programs in Child Care Settings recommends that nutrition education for children and parents should be a component of the childcare program.

Staff Programs in Schools

Objective 1.10

By _____, ____% of schools will provide nutrition education programs and continuing education opportunities for staff.

Baseline

Data source to be determined

Rationale

A preschool through 12th grade nutrition education curriculum, taught by well-trained staff and well-supported teachers who are trained to teach nutrition is a vital component of a Coordinated School Health Program. Since only half (52%) of elementary school teachers have had formal training to teach nutrition, and training increases teachers' use of active learning strategies, teachers should be offered ongoing in-service training. Training should address both content and teaching strategies. Because classroom teachers often need more help with innovative nutrition teaching techniques than with content, training should focus on giving teachers the skills they need to use the non-lecture, active learning methods discussed previously. It is also essential that food service staff be trained so that meals reflect the nutrition education concepts taught in the classroom.

Evidence Base

Training in nutrition and health education has been shown to increase the extent to which teachers implement a curriculum, which in turn affects the likelihood that students' eating behaviors will change.

Who Recommends It

The American Dietetic Association, the Society for Nutrition Education, the American School Food Service Association and the Centers for Disease Control's *Coordinated School Health Guidelines* recommend that teachers and food service staff participate in ongoing nutrition education training.

Family Programs in Schools**Objective 1.11**

By _____, ____% of schools will provide nutrition education programs for families.

Baseline

Data source to be determined

Rationale

The attitudes and behaviors of parents and caretakers directly influence children's food choices. Parents control most of the food choices available at home, so changing parents' eating behaviors may be one of the most effective ways to change their children's eating behaviors. Involving parents in a nutrition education curriculum at the elementary school level can enhance the eating behaviors of both the students and the parents.

Evidence Base

Although parental involvement has been shown to enhance the effects of nutrition education programs at the elementary school level, it is not known whether involving parents at the secondary school level helps improve the students' eating behaviors.

Who Recommends It

The American Dietetic Association, the Society for Nutrition Education, the American School Food Service Association and the Centers for Disease Control's *Coordinated School Health Guidelines* recommend that schools offer families opportunities to participate in nutrition education programs and activities.

Nutrition in Schools & Childcare ...***...Ideas for Implementation***

- Farm-to-cafeteria programs
- School gardens, farmers' markets at schools
- Fruit and vegetable tasting events in schools
- Fruits and vegetables in vending machines
- Salad bars in school cafeterias or a la carte
- USDA Fruit and Vegetable Snack Program
- Dept of Defense Fresh Program in schools
- Weekly/monthly fruit/vegetable promotions
- Student/teacher/staff contests
- Healthy vending machines
- Healthy vendors trade show for schools
- Classroom nutrition education in cafeteria
- Hands-on food preparation, meal planning, energy balance planning in classes and in cafeteria
- Hands-on healthy eating food preparation in before/after school programs
- Taste-testing events
- Cooking demonstrations
- Participatory meal/snack preparation and analysis
- Trainings, technical assistance and toolkits for child care providers
- Hands-on healthy meal and snack demonstrations for parents and children
- Handouts regarding healthy meals and snacks
- Recipes for parents
- Evening or weekend healthy eating demonstrations, meal planning, weight management programs for families

Nutrition in Communities

“A promising approach to improving healthy weight management is to focus on changes in the food environment: the availability, structure, composition and portion size of foods. There is potential for changes in the food environment both at the general (or population) level and at the level of the individual (personal food environment). For example, a change in the food environment at the population level might be the availability of more food choices that facilitate the maintenance of a healthy weight.”

Community-Based Healthy Eating Programs

Objective 1.12

By _____, ____% of community-based organizations will provide hands-on, healthy eating learning opportunities.

Baseline

Data source to be determined

Rationale

To achieve and maintain healthy weights for adults and children, families need access to information and hands-on learning opportunities on how to purchase and prepare healthy meals and snacks. Effective nutrition education programs focus on changing specific behaviors rather than on learning general facts about nutrition and employ active learning or experiential strategies. Community-based organizations can help people improve their dietary choices and food selection techniques by providing participatory, hands-on opportunities to learn and practice new skills.

Evidence Base

Studies have established that community-based programs can be effective in improving nutrition knowledge and choices, and in some cases, reducing body weight or maintaining healthy body weight, and are most effective when an intervention engages community members themselves in the program’s assessment, planning, implementation and evaluation.

Who Recommends It

The Centers for Disease Control and Institute of Medicine recommend that community, child and youth-centered organizations promote healthful eating behaviors through new and existing programs that will be sustained over the long term.

Community Gardens and Markets

Objective 1.13 By _____, ____% of communities will have farmers' markets or community garden programs.

Baseline

Data source to be determined

Objective 1.14 By _____, ____% of underserved, low-income communities will have markets that provide low-cost, high-quality fruits and vegetables.

Baseline

Data source to be determined

Rationale

In order to achieve and maintain healthy weights, people need access to affordable, high-quality fruits and vegetables—a problem for many low-income families. Expanding the selection of healthy foods in small markets and convenience stores and attracting larger supermarkets into low-income communities would increase access. Along with increasing access to fresh produce, community gardens and farmers' markets also provide opportunities for the sharing of nutritional information about healthy eating through cooking demonstration, recipe sharing, etc.

Evidence Base

According to a 2002 study, African American residents increased their fruit and vegetable intake by an average of 32% for each supermarket in their census tract. Two common elements of communities that have successfully attracted supermarket investment are: 1) strong community advocacy and involvement and 2) strong political leadership, public advocacy and informed action.

Who Recommends It

The Institute of Medicine recommends that communities increase access to healthful food options through farmers' markets and community gardens.

Restaurants and Fast Food

Objective 1.15 By _____, ____% of full-service and fast food restaurants will expand healthy food and beverage options.

Baseline

Data source to be determined

Objective 1.16 By _____, ____% of full-service and fast food restaurants will provide full-disclosure nutrition information at point of purchase.

Baseline

Data source to be determined

Rationale

Since more and more food is consumed away-from-home, it is important to improve both the quality and quantity of the food consumed at these away-from-home locations. This can be achieved by ensuring that there are more healthy food and beverage options available and that the nutrient content is displayed at the point of purchase to help consumers make informed decisions.

Evidence Base

Studies have shown that nutrition disclosure of food content on menus significantly decreases the caloric content of foods selected.

Who Recommends It

The Surgeon General, the Institute of Medicine the FDA Obesity Work Group and the Centers for Disease Control recommend that calorie and other key nutrition information be provided at point of purchase.

Nutrition in Communities ...

...Ideas for Implementation

- Taste-testing events and cooking demonstrations
- Training event for community agencies re: "Community-Based Healthy Eating Events"
- Community-based weight management programs
- Healthy Eating Guidelines for Meetings and Events in Community-Based Organizations
- Farmers markets with learning events, taste-testing, cooking demos, recipes, etc.
- Community gardens with learning activities for families, taste-testing, cooking demos, recipes, etc.
- Incentive-based programs to encourage larger markets to relocate in underserved areas or small, convenience stores or markets to expand selection of fruits and vegetables
- Training events for restaurant owners and chefs about providing healthy meal options
- Trainings, technical assistance and toolkits for restaurant owners and chefs regarding nutrition disclosure

Nutrition in Worksites

The most effective interventions are multicomponent ones that include environmental modifications along with promotion of healthy eating through nutrition education programs and information at the worksite.

Healthy Food Choices

Objective 1.17 By _____, ____% of worksites will provide healthy food options for employees.

Baseline
Data source to be determined

Rationale

Most adults eat at least one meal a day at work, often in the cafeteria, as well as snacks and drinks throughout the day. The availability of healthy food and beverage options in the cafeteria, vending machines and worksite snack bars or stores will make it easier for people to make healthy choices.

Evidence Base

There is evidence that expanding the availability of healthy meals in cafeterias, and healthy foods and beverages in vending machines at the worksite results in healthier eating behaviors.

Who Recommends It

The Surgeon General's *Call to Action to Prevent and Decrease Overweight* and the Centers for Disease Control recommend that employees ensure that healthy food and beverage options are available for employees at the worksite.

Nutrition Information

Objective 1.18 By _____, ____% of worksite cafeterias will provide full-disclosure nutrition information at point of purchase.

Baseline
Data source to be determined

Rationale

People will make healthier choices about the foods and beverages they consume if they are aware of their nutritional content.

Evidence Base

Studies have shown that that nutrition disclosure of food content on menus significantly decreases the caloric content of foods selected.

Who Recommends It

The Surgeon General, the Institute of Medicine the FDA Obesity Work Group and the Centers for Disease Control recommend that calorie and other key nutrition information be provided at point of purchase.

Fruits and Vegetables

Objective 1.19 By _____, ____ % of worksites will implement fruit and vegetable initiatives.

Baseline

Data source to be determined

Rationale

People will eat more fruits and vegetables if they are readily available and affordable at the worksite.

Evidence Base

There is evidence that increasing availability of fruits and vegetables at worksites results in increased consumption.

Who Recommends It

The Centers for Disease Control recommend that worksites provide a variety of fruits and vegetables in cafeterias, vending machines and at company functions and meetings, use incentive-based approaches to encourage their sale and develop fruit and vegetable worksite initiatives that create awareness, motivation, social support and increased availability of fruits and vegetables at worksites.

Nutrition Education

Objective 1.20 By _____, ____% of worksites will provide education or information about healthy eating and weight management.

Baseline

Data source to be determined

Rationale

Education and information about healthy eating and the nutritional quality of foods will increase the knowledge and skills of employees and positively affect the dietary choices they make.

Evidence Base

There is evidence that worksite interventions providing nutrition education, counseling, and information are effective at improving dietary behaviors of employees.

Who Recommends It

A report published by the Public Health Institute and the California Department of Health evaluated effective worksite interventions and, based on the evidence, recommends that employers distribute educational materials, such as newsletters, recipes, brochures, and posters, at workplaces that show the benefits of eating healthy foods and information about how to prepare or choose healthy meals throughout the day.

Nutrition in Worksites ...***...Ideas for Implementation***

- Healthy Worksite Award/Incentive Program
- Cooking demos, taste tests in cafeteria
- Healthy vending events at worksite
- Contest—healthiest break/snack room at worksite
- Employee seminar/video on how nutrition labels can help with weight management
- Farm-to-Cafeteria Programs
- Farmers Markets at worksites
- Fruits and vegetables in vending machines, break rooms, snack rooms
- Guidelines/policy requiring fruits and vegetables at company meetings, events
- 5-A-Day month/week
- Employee health fairs that include fruit and vegetable information
- Promotion of fruits and vegetables in cafeterias and by vending companies
- Farmers Market coupons as employee recognition awards
- Worksite Incentive/Award Program
- Employee nutritional assessments and personal reports with recommendations
- Healthy Cooking Demos/Taste tests at lunchtime, breaks, after work
- Nutritional information at eating locations
- Nutrition/weight management articles in worksite newsletters
- Onsite weight management programs at convenient times for employees
- Awards/recognition for employees practicing healthy eating

Nutrition in Healthcare

Nutrition Counseling and Referrals

Objective 1.21

By _____, ____% of healthcare providers will routinely track Body Mass Index and follow evidence-based guidelines for nutrition counseling and referral.

Baseline

Data source to be determined

Rationale

By routinely measuring height and weight, calculating BMI and providing nutrition counseling at routine well-child visits or adult annual physicals, clinicians communicate to their patients that this is an important matter and patients will be more likely to make positive dietary behavior changes.

Evidence Base

There is evidence that physician counseling is effective at improving patients' dietary behaviors.

Who Recommends It

The Surgeon General, the Institute of Medicine, the American Academy of Pediatrics, the Centers for Disease Control and the Surgeon General recommend that all health care providers routinely track Body Mass Index and offer relevant, evidence-based counseling.

Insurance Coverage

Objective 1.22

By _____, ____% of health insurance plans will cover nutrition counseling and weight management services.

Baseline

Data source to be determined

Rationale

Without adequate insurance reimbursement, health care providers are often unable to spend an adequate amount of time assessing or providing preventive counseling to their patients.

Who Recommends It

The Institute of Medicine recommends that healthy insurers, health plans and quality-improvement and accrediting organizations should designate obesity prevention as a priority health promotion issue.

Nutrition in Healthcare...***...Ideas for Implementation***

- Health care professional forums and/or seminars on obesity screening and prevention
- Web-based, video training courses for providers
- Behavior change training programs for providers
- Toolkits and resources for health care providers, medical schools, nursing schools, quality assurance organizations, and health plans
- Tailored, behaviorally-focused messages to use with patients about healthy eating, energy balance and obesity prevention and treatment
- Obesity resource website for health care providers
- Nutrition resource referral guide for health care providers
- Cost-benefit analysis package and presentation for health insurance administrators
- Model coverage plans and benefits for health plan administrators
- Incentives for insurers to promote healthy eating among subscribers.

Breastfeeding Objectives

Objective 2	Increase the proportion of mothers who breastfeed their babies.
Objective 2a	By 2010, 75% of mothers will breastfeed their babies in the early postpartum period. <u>Baseline</u> Data source to be determined
Objective 2b	By 2010, 50% of mothers will breastfeed their babies for at least six months. <u>Baseline</u> Data source to be determined
Objective 2c	By 2010, 25% of mothers will breastfeed their babies for at least twelve months. <u>Baseline</u> Data source to be determined

Rationale

In addition to being universally endorsed as the normal and preferred method of infant feeding and offering a wide range of benefits for mother and child, breastfeeding has recently been identified as a promising, new strategy for preventing childhood overweight and obesity.

Evidence Base

There is a growing body of evidence that breastfeeding does, in fact, offer protection against childhood obesity and that the longer a mother breastfeeds her infant, the greater the protection.(2).] [Grummer-Strawn LM, Mei A. Does Breastfeeding Protect Against Pediatric Overweight? Analysis of Longitudinal Data From the Centers for Disease Control and Prevention Pediatric Nutrition Surveillance System. *Pediatrics*. 2004; 113:81-86] [Stettler N, Zemel BS, Kumanyika

Who Recommends It?

The American Academy of Pediatrics, the World Health Organization, the United States Breastfeeding Committee and the American Academy of Family Physicians all recommend promoting breastfeeding as the normal and preferred method of infant feeding. In its most recent policy statement, the American Academy of Pediatrics strengthened its previous recommendations and now recommends exclusive breastfeeding for the first six months of life, continued breastfeeding while adding weaning foods for the next six months and on-going breastfeeding for as long as mother and child wish.

The Centers for Disease Control recently identified increasing breastfeeding rates and duration as one of the four most promising behavior change strategies for decreasing the prevalence and rate of increase in overweight and obesity. Healthy People 2010 established the following objectives for increasing breastfeeding rates and duration, and these objectives have been adopted by HEALTH:

- Increase to 75% the proportion of mothers who breastfeed in the early postpartum period.
- Increase to 50% the proportion of mothers who breastfeed for at least 6 months.
- Increase to 25% the proportion of mothers who breastfeed for at least 12 months.

To achieve these objectives, the United States Breastfeeding Committee's National Agenda set forth the following four goals:

1. Assure access to comprehensive, current, and culturally appropriate lactation care and services for all women, children and families.
2. Ensure that breastfeeding is recognized as the normal and preferred method of feeding infants and young children.
3. Ensure that all Federal, State and local laws relating to child welfare and family law recognize and support the importance of breastfeeding.
4. Increase protection, promotions and support for breastfeeding mothers in the work force.

The short-term objectives in this plan are designed to achieve these goals in schools, childcare programs, community setting, worksites and the health care system.

Breastfeeding in Schools & Childcare

Breastfeeding Education in Schools

Objective 2.1

By _____, ____% of schools will incorporate breastfeeding education into the core curriculum.

Baseline

Data source to be determined

Rationale

A change in social norms is needed for breastfeeding to be recognized as the normal and preferred method of infant feeding. Children's views and perceptions of society are formed at an early age, and education is a proven method for changing social norms. By including breastfeeding education in the core curriculum, children's perceived norms regarding breastfeeding will change and these children will be more likely to breastfeed their own children and be more accepting of breastfeeding mothers in their homes and communities.

Who Recommends It

The Department of Health and Human Services' *Blueprint for Action on Breastfeeding* recommends that "Health education in schools should include information on the importance of breastfeeding for children and women's health." The United States Breastfeeding Committee recommends developing and implementing an educational curriculum relating to breastfeeding as the normal and preferred method of feeding infants and young children that is age appropriate for pre-kindergarten through grade 12.

Childcare Programs

Objective 2.2

By _____, ____% of childcare programs will have policies and environments that support breastfeeding mothers.

Baseline

Data source to be determined

Objective 2.3

By _____, ____% of childcare program staff will provide basic breastfeeding support and referral.

Baseline

Data source to be determined

Rationale

Many infants and toddlers are now cared for by someone other than their parents, so it is imperative that these caretakers, and the environments in which these infants and toddlers spend the majority of their time, are supportive of breastfeeding. If childcare programs have policies, environments and staff supportive of breastfeeding, women will be more likely to breastfeed their infants, to continue breastfeeding for longer periods of time and to have more positive work experiences. In addition, the childcare programs will benefit because the children in their care will be healthier and happier.

Who Recommends It

The Department of Health and Human Services in its *Blueprint for Action on Breastfeeding* recommends that childcare centers accommodate mothers who wish to breastfeed their children or have their children fed expressed milk at the facility. The United States Breastfeeding Committee recommends that child care programs increase current awareness of the need for protecting, promoting and supporting breastfeeding; initiate new training programs to improve child care providers knowledge about breastfeeding and its importance; participate in health promotion campaigns that disseminate information about the benefits of breastfeeding and teach child care providers how to store, handle and feed mother's milk.

Breastfeeding in Schools & Childcare...***...Ideas for Implementation***

- Integrating breastfeeding into the plans for the design of a child care facility, its equipment and furnishings and the training and scheduling of its staff
- Providing a welcoming atmosphere that encourages mothers to initiate and continue breastfeeding after returning to work or school
- Training staff to provide accurate basic breastfeeding information and referrals for skilled breastfeeding support when necessary
- Designating a space for the safe expression and storage of breast milk
- Offering children breast milk in containers other than bottles (e.g., cups or spoons) when parents request it.
- Providing space for mothers to breastfeed their children on-site
- Creating an environment that fosters parent support groups and the ability to share information
- Empowering families to advocate for policies that support breastfeeding.

Breastfeeding in Communities

Breast Pump Distribution Programs

Objective 2.4

By _____, ____% of communities will provide breast pump distribution programs.

Baseline

Data source to be determined

Rationale

Since 70% of women with children under the age of three return to work full time (one-third within three months after birth and two-thirds within six months after birth), the ability to express and store breast milk is an essential component of continued breastfeeding. Without access to effective breast pumps, mothers cannot do this. For many women, the expense associated with purchasing or renting a pump is more than they can afford. If the communities in which women lived had breast pump distribution programs, women would be more likely to continue breastfeeding after returning to work, and breastfeeding duration rates should increase.

Peer Support

Objective 2.5

By _____, ____% of communities will provide peer support programs for breastfeeding mothers.

Baseline

Data source to be determined

Rationale

New mothers' preferred resource for concerns about child rearing is other mothers and perceived social support has also been found to predict breast feeding success. Peer support is a cost-effective, individually-tailored approach to culturally competent promotion and support of breastfeeding for women of varying socioeconomic backgrounds, especially where professional support is not widely available. If women have access to mother-to-mother peer support programs in their communities, they will be more likely to successfully breastfeed their infants.

Evidence Base

Peer support programs are effective by themselves in increasing the initiation and duration rates of breastfeeding in a multitude of populations, including disadvantaged and low-income populations. Multifaceted interventions, with peer support as one of the main components, are also effective in increasing breastfeeding rates and duration.

Who Recommends It

The United States Breastfeeding Committee recommends that comprehensive and seamless lactation support programs be encouraged between hospitals and communities. In addition, they recommend the formation of mother-to-mother support groups and breastfeeding peer-counselor programs to help eliminate disparities in breastfeeding initiation and duration.

Breastfeeding in Communities...***...Ideas for Implementation***

- Peer support programs in churches and community agencies
- Breast pump distribution programs

Breastfeeding in Worksites

“Every woman, regardless of her employment status, should have the opportunity to breastfeed and/or provide breast milk to her child. Breastfeeding should be protected, promoted and supported in the workplace through political, sociocultural, economic, and legal means in a way that protects family health and economic viability.” U.S. Department of Health and Human Services, Office on Women’s Health, HHS Blueprint for Action on Breastfeeding.

Supportive Policies, Programs and Environments

Objective 2.6

By _____, ____% of worksites will have policies, programs or environments that support breastfeeding mothers.

Baseline

Data source to be determined

Rationale

Although two-thirds of RI women initiate breastfeeding, only 17% are still breastfeeding at 12 months. One of the major barriers to continued breastfeeding is working outside of the home. If worksites have breastfeeding supportive policies, programs and environments, women will be more likely to breastfeed their infants, to continue breastfeeding for longer periods of time and to have more positive work experiences. In addition, there are significant benefits for employers including a cost savings of \$3 for every \$1 invested, reduced absenteeism, lower healthcare costs (~\$400 per baby over the first year), increased productivity, higher employee morale, loyalty and retention and a family-friendly image in the community.

Evidence Base

Studies show that a much larger percentage (75%) of mothers who participate in worksite breastfeeding support programs are still breastfeeding at six months compared to national rates (10%) for all employed breastfeeding mothers. In addition, these mothers continue breastfeeding for significantly longer periods of time. Measures of participant satisfaction and perceptions also show a positive impact of workplace support programs on the mother’s work experience as well as significant benefits for employers.

Who Recommends It

The United States Breastfeeding Committee, the Association of Women’s Health Obstetric and Neonatal Nurses (AWHONN), the US Department of Health and Human Services, Office on Women’s Health, the American Academy of Pediatrics, and the American Academy of Family Physicians recommend that employers have policies, programs and environments that support breastfeeding mothers at worksites.

Maternity Benefits

Objective 2.7

By _____, ____ % of employers will provide benefit plans with enhanced maternity leave and lactation benefits, including flexible work schedules.

Baseline

Data source to be determined

Rationale

The longer a mother stays home with her new baby, the more successful she will be at breastfeeding. Once women return to work, flexible work arrangements and break times for breastmilk expression can ease their return and help ensure a continuation of breastfeeding. If employers provide mothers with enhanced maternity leave and lactation benefits, including flexible work schedules, it will increase the likelihood that these women initiate breastfeeding and continue after their return to work.

Who Recommends It

The United States Breastfeeding Committee recommends that employers offer a 6 to 14 week paid maternity leave, flexible work schedules and adequate breaks during the day for breastmilk expression. The Association of Women's Health Obstetric and Neonatal Nurses (AWHONN), the US Department of Health and Human Services, Office on Women's Health, the American Academy of Pediatrics, and the American Academy of Family Physicians also recommend that employers offer benefit plans with enhanced maternity leave and lactation benefits, as well as flexible work schedules for breastfeeding mothers.

Breastfeeding in Worksites...

...Ideas for Implementation

- Private Mothers' Rooms for expressing milk
- Small refrigerators for safe storage of breast milk
- Adequate breaks, flexible work hours
- Support groups
- Written policy supporting breastfeeding
- Access to breast pumps at the workplace

Breastfeeding in Healthcare

Maternity Care Practices

Objective 2.8

By _____, ____% of hospitals and maternity care facilities will adopt evidence-based maternity care practices.

Baseline

Data source to be determined

Rationale

Early experience with breastfeeding is critical, and non-supportive hospital experiences and lack of support from health care providers have been identified as barriers to breastfeeding, especially among African American women. Therefore, maternity care and newborn facilities should follow practices conducive to proper lactation even when in-hospital maternity care is short. Hospitals and other maternity centers are encouraged to adopt the *Ten Steps to Successful Breastfeeding* as outlined by the United Nation's Children's Fund, the World Health Organization, the Breastfeeding Hospital Initiative Feasibility Study Expert Work Group and Baby Friendly USA (Table 17). If these practices are adopted and followed, women will be more likely to breastfeed their babies successfully.

Evidence Base

Institutional changes in maternity care practices, specifically implementing the *Ten Steps to Successful Breastfeeding* required for Baby Friendly designation, have been shown to be effective at increasing the initiation and duration of breastfeeding.

Table 17. *Ten Steps to Successful Breastfeeding*

1. Have a written breastfeeding policy that is communicated to all healthcare staff.
2. Train all healthcare staff in skills needed to implement the policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half hour after birth.
5. Show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants.
6. Give newborn no food or drink other than breast milk, unless medically advised.
7. Practice rooming-in—allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers to soothe breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from hospital or clinic.

Source:

Who Recommends It

The Department of Health and Human Services, Office on Women's Health and the United States Breastfeeding Committee recommend that all maternity care facilities provide evidence-based maternity care practices.

Counseling by Health Care Providers**Objective 2.9**

By _____, ____% of healthcare providers will provide evidence-based breastfeeding counseling and referral during preconceptual, prenatal, and postpartum visits.

Baseline

Data source to be determined

Rationale

Since education of mothers is the single most effective strategy for increasing breastfeeding, it is critical that healthcare providers take advantage of every opportunity to encourage women to breastfeed. Breastfeeding support is particularly critical in the first few weeks postpartum. Therefore, all breastfeeding mothers must have access to lactation management support provided by trained healthcare providers. All health care providers who interact with women or infants should be knowledgeable and skillful in counseling women about breastfeeding and lactation, and in providing medical care to breastfeeding mothers and their babies. To this end, culturally appropriate training for breastfeeding must be integrated into the curricula of health professional schools, with special attention to barriers for all women, especially African American and other minority women. Breastfeeding training should also be provided under the continuing education requirements for practitioners.

Evidence Base

A review by the U.S. Preventive Services Task Force in July, 2003 determined education on breastfeeding to be the most effective single intervention for increasing breastfeeding initiation and duration.

Who Recommends It

The United States Breastfeeding Committee, the Department of Health and Human Services, Office on Women's Health, the American Academy of Pediatrics and the American Academy of Family Physicians all recommend that health care providers provide evidence-based counseling on breastfeeding during preconceptual, prenatal and postpartum visits.

Marketing of Infant Formula

Objective 2.10 By _____, ____ % of healthcare facilities will have policies restricting the marketing and distribution of infant formula on the premises.

Baseline

Data source to be determined

Rationale

The marketing of infant formula has a negative effect on breastfeeding initiation and duration and a disproportionately negative impact on particularly vulnerable groups including first time mothers, women with less education, racial and ethnic minority women, and those who are ill in the postpartum period. It is confusing to women for health care facilities to promote breastfeeding and, at the same time, distribute infant formula samples or promotional literature. If healthcare facilities restrict such practices, women will be more likely to breastfeed their babies successfully and for longer durations.

Evidence Base

The Cochrane Review of the impact of distributing samples of infant formula and promotional materials to breastfeeding mothers in the form of hospital discharge packs suggests a negative effect of this direct marketing on the duration and exclusivity of breastfeeding. There is also evidence that distributing educational materials produced by formula manufacturing to pregnant women intending to breastfeed has a substantially negative effect on the exclusivity and duration of breastfeeding.

Who Recommends It

The Department of Health and Human Services, Office on Woman's Health and the United States Breastfeeding Committee recommend restricting the marketing of infant formula. The *International Code of Breast Milk Substitutes* and a subsequent WHO resolution delineate guidelines for formula marketing to ensure that it does not interfere with the establishment of successful breastfeeding.

Health Insurance Coverage

Objective 2.11 By _____, ____% of health insurance plans will cover breastfeeding support services and medically advised equipment.

Baseline

Data source to be determined

Rationale

Without adequate insurance coverage for lactation services and equipment, many women will not be able to utilize these services. If health insurance plans cover support services and equipment, mothers will have access to evidence-based, professional breastfeeding

support and the medically advised equipment (breast pumps) that they need to successfully breastfeed and continue breastfeeding after returning to work.

Who Recommends It

The United States Breastfeeding Committee recommends that third party health care payers adequately reimburse for lactation and breastfeeding services and medically advised equipment.

Breastfeeding in Healthcare...

- In development
- In development
- In development
- In development
- In development
- In development
- In development

...Ideas for Implementation

Physical Activity Objectives

Objective 3 Increase the proportion of adults, adolescents and children who engage in regular physical activity.

Objective 3a By 2010, __% of adults will engage in moderate physical activity for at least 30 minutes daily.

Baseline

Data source to be determined

Objective 3b By 2010, __% of adolescents and children will engage in moderate physical activity for at least 60 minutes daily.

Baseline

Data source to be determined

Evidence Base

Evidence suggests that people who are physically active have lower BMIs and body fat percentages than those who are not active. Several comprehensive reviews and meta-analyses have examined the impact of exercise training on obesity. This work concluded that:

- Physical activity affects weight and body composition favorable by promoting fat loss and preserving or increasing muscle mass
- Weight loss is related to the frequency (days a week) and duration (minutes per session) in a dose response manner
- Weight loss from physical activity alone is slower than from a combination of calorie restriction and activity

Who Recommends It

A comprehensive review of a large body of scientific research conducted by CDC and the American College of Sports Medicine determined that 30 minutes of moderate activity on at least 5 days a week or 20 minutes of vigorous activity 3 on at least 3 days a week was sufficient to improve health and prevent disease. For obesity prevention and control, this recommendation is a starting point to get people more active. For weight loss and maintenance, many individuals find that more physical activity, up to 90 minutes a day, may be necessary.

A systematic review of scientific literature concluded that school-age youth should participate in 60 minutes or more of moderate to vigorous physical activity every day through a variety of developmentally appropriate activities. These recommendations reflect presently available scientific evidence and are in general agreement with recommendations promoted by governmental agencies and professional organizations.

Physical Activity in Schools & Childcare

Physical Education

Objective 3.1

By _____, ____% of schools will provide daily structured physical education aligned with the *Rhode Island Physical Education Framework*.

Baseline

Data source to be determined

Rationale & Evidence Base

Well designed PE programs can increase physical activity levels, and teach the skills and knowledge children need to establish and maintain an active lifestyle. Besides the health benefits of PE, there are also academic benefits. Data shows that children with high fitness scores also had high achievement scores.

Who Recommends It

Daily PE for all students is a recommendation supported by many national organizations. NASPE recommends that schools provide 150 minutes per week of PE for elementary students, and 225 minutes per week for middle and high school students. The Task for on Community Preventive Services found strong evidence of effectiveness for PE as a way to increase physical activity among children. Healthy People 2010 has also identified PE as a priority. The RI Association for Health, Physical Education, Recreation and Dance, as well the Board of Regents of the RI Department of Elementary and Secondary Education, has endorsed the *Rhode Island Physical Education Framework*.

Recess

Objective 3.2

By _____, ____% of elementary schools will provide daily recess.

Baseline

Data source to be determined

Rationale

Recess may be the only opportunity a child has during the day for unstructured play, and one of only a few opportunities to accumulate physical activity.

Evidence Base

Over half of children's recess time is spent being physically active. Besides physical activity benefits, recess has academic benefits. Physical activity at recess helps students stay on task and reduces distraction.

Who Recommends It

Various organizations including CDC, The National Association of Elementary School Principals, the National Association for the Education of Young Children, and the American Association for the Child's Right to Play support recess as an important component of a child's physical and social development. The National Association for Sport and Physical Education (NASPE) recommends supervised daily recess for all students in K-5 that is not a substitute for PE and should not be used as a reward or withheld as a punishment.

Before- and After-School Programs**Objective 3.3**

By _____, ____% of before- and after-school programs will include physical activity.

Baseline

Data source to be determined

Rationale & Evidence Base

Evidence suggests that physical activity programs in after school settings can increase children's physical activity levels. Motivation for physical activity can be increased by a social environment that allows children to enjoy physical activity and fosters cooperation among peers. Before- and after-school programs that provide physical activity give students the opportunity to learn by experience in a setting that is supported by their peers and program leaders. There is strong evidence of effectiveness for this non-family social support as a way to increase physical activity. Studies suggest that social support interventions can result in a 44% increase in time spent being physically active and a 20% increase in the frequency of physical activity. Such programs are particularly important for children in areas where neighborhood safety concerns may present a barrier to outside physical activity.

Who Recommends It

The Secretaries of Education and Health and Human Services, Former U.S. Surgeons General C. Everett Koop and David Satcher, The American Academy of Pediatrics, The National Coalition for Promoting Physical Activity and The National Association for Sport & Physical Education all have recommended physical activity during after school hours as part of their plans. Institute of Medicine recommends after-school programs encourage and enable daily physical activity. The Afterschool Alliance has recognized the role that programs play in preventing obesity and has adopted an obesity prevention agenda that encourages health and after school advocates to work together to promote activity in after school settings.

Childcare Programs

Objective 3.4

By _____, ____% of childcare programs will include physical activity.

Baseline

Data source to be determined

Rationale

Childcare centers are in a unique position to influence the youngest children. Experts recommend that obesity prevention begin with this group. Physical activity instruction and positive reinforcement is critical during early childhood in order to ensure that children develop movement skills before entering school.

Evidence Base

Child care centers that support physical activity have a stronger influence on children's physical activity levels than even demographic characteristics of families. These centers can provide both structured and unstructured physical activity to help children meet physical activity recommendations in a developmentally appropriate, safe and supportive environment.

Who Recommends It

NASPE recommends that toddlers accumulate at least 90 minutes per day of physical activity with 30 of that in a structured setting, and preschoolers 120 minutes, with 60 in a structured setting. Structured activity sessions should be 15-20 minutes in length and should emphasize a wide variety of movement skills.

Staff and Families

Objective 3.5 By _____, ____% of schools will provide staff with opportunities to be physically active.

Baseline

Data source to be determined

Objective 3.6 By _____, ____% of schools will provide families with opportunities to be physically active.

Baseline

Data source to be determined

Rationale

Opportunities to be physically active can include programs and activities (walking clubs, fitness classes, physically active fundraisers like “Jump Rope for Heart,” education) and facilities (equipment, walking paths). Schools not only provide a venue for family and staff physical activity, they can also provide social support in a community setting, which has been shown to be effective in increasing adults’ physical activity levels.

Who Recommends It

The Surgeon General’s *Call to Action* states, “public health approaches in schools should extend beyond health and physical education to include ... links between schools and families and communities”. The National Association of State Boards of Education (NASBE) recommends that schools enhance physical activity opportunities available for staff and families, establish and implement activities to promote physical activity, and offer convenient opportunities to engage in physical activity. The President’s Council on Physical Fitness recommends schools open recreational facilities for students, staff, and community members after-hours for physical activity.

Safe Route to School Programs

Objective 3.7 By _____, ____% schools will have Safe Routes to School programs.

Baseline

Data source to be determined

Rationale

Safe Routes to School programs promote walking and biking to school through encouragement, education, enforcement, and engineering.

Evidence Base

These programs have been successful in many communities. One study found that children whose route to school passed a completed Safe Routes to School improvement at 10 elementary schools in California were more likely to increase walking to school than children whose route did not pass the improvement.

Who Recommends It

The IOM and CDC support walking and biking to school programs to increase physical activity levels.

Physical Activity in Schools & Childcare...***...Ideas for Implementation***

- Lunch and Learn presentations
- SPARK PE (won't get daily PE, but will get higher quality PE)
- After school program curriculum (e.g. Stanford GEMS, CATCH Kids Club, SPARK Afterschool, Sport 4 Kids)
- SPARK Early Childhood Program
- WELCOA Awards Program for Schools with worksite wellness programs
- School fitness equipment, tracks, and locker rooms available to families after school
- Fun Run/Walk programs
- Jump Rope for Heart, Hoops for Heart
- Walkability Audits
- State-Level Safe Routes Training Program
- Walking School Busses
- Walk to School Days

Physical Activity in Communities

Community-Based Organizations

Objective 3.8

By _____, ____% of community-based organizations will provide opportunities for physical activity.

Baseline

Data source to be determined

Rationale

Community-based organizations are an excellent venue for physical activity because they are less formal settings than structured physical activity programs and may be more conducive to people trying new activities. Increasing accessibility to free or low cost physical activity programs can encourage physical activity.

Evidence Base

Research shows that community center use impacts physical activity. Increasing community-based physical activity programming creates environments that support physical activity and improve access to physical activity opportunities. When combined with informational outreach, enhanced access is effective in increasing physical activity levels.

Who Recommends It

CDC guidelines for youth physical activity promotion call on community agencies to provide accessible, developmentally appropriate programs. IOM recommends that CBOs collaborate with public health agencies, local government, and schools to develop and promote programs that encourage regular physical activity, particularly for populations at high risk of childhood obesity.

Parks and Trails

Objective 3.9

By _____, ____% of communities will have new or revitalized parks or trails.

Baseline

Data source to be determined

Rationale

Parks, trails, and other open spaces give community members free access to recreation.

Evidence Base

The ability to be physically active is influenced by the environment. People with the best access to built and natural facilities, such as parks, trails, and open space, are 43 percent more likely to be physically active 30 minutes most days than those with poor access. Creating and improving places to be active can result in a 25% increase in the percentage of people who exercise at least 3 times per week.

Who Recommends It

Recently, eleven federal programs joined forces to establish a Memorandum of Understanding (MOU) to Promote Public Health and Recreation. As part of President Bush's Healthier U.S. initiative, the US Departments of Health and Human Services, Agriculture, Interior, and Army pledged to promote the use and benefits of public lands and water resources to enhance the physical and psychological health and well being. The Institute of Medicine recommends that local governments, private developers, and community groups expand opportunities for physical activity including recreational facilities, parks, playgrounds, sidewalks, bike paths, routes for walking or biking to school, and safe streets and neighborhoods.

Walkable Communities**Objective 3.10**

By _____, ____% of communities' comprehensive plans will include objectives for improving community walkability.

Baseline

Data source to be determined

Rationale

A pedestrian- and bicyclist-friendly community can help residents accumulate daily physical activity from routine tasks (Table 18).

Evidence Base

Evidence shows a linkage between community design and physical activity. Community walkability is an important determinant of physical activity. Residents in highly walkable neighborhoods take twice as many walking trips (mainly for errands and commuting) as people in less walkable neighborhoods.

Table 18. Community master plans

Each RI city and town's comprehensive master plan contains goals and objectives for land use, economic development, traffic flow, and open space and recreation. Objectives that encourage physical activity could address:

- Requiring sidewalks in all new development
- Dedicated funding for sidewalk, lighting, signing, and striping maintenance
- Zoning for mixed-use and compact development
- Reducing parking ratios in commercial areas
- Acquiring open space for recreation
- Improving public transportation options
- Retrofitting roads, cul-de-sacs, and building features to pedestrian scale
- Requiring new roads be designed with pedestrians and cyclists in mind

Who Recommends It

The Institute of Medicine recommends strategies to improve physical activity through community design such as: 1) revising local and state comprehensive plans, zoning, and subdivision ordinances to increase opportunities for physical activity, 2) directing development towards existing communities to increase physical activity opportunities in places where people already live, and 3) improving the walkability of communities through street and sidewalk improvements and safe routes to schools programs. The Task Force on Community Preventive Services has recognized the importance of this issue and is in the process of performing a systematic review of the literature to determine effectiveness of street scale design and land use policies.

Physical Activity in Communities...***...Ideas for Implementation***

- Active Fundraisers, such as Walk-a-thons
- "Recycle a bike" programs
- Walking Clubs or Exercise Clubs
- Park Clean Ups or other active community service
- Hearts N Parks Program
- Verb Campaign in community centers
- Growing Stronger program
- Neighborhood Park Clean Up
- Rails to Trails Day Celebration
- Smart Growth town meeting
- Model comprehensive plans
- Walkability Assessments
- Active Community Environment Awards

Physical Activity in Worksites

Objective 3.11

By _____, ____% of worksites will have environmental supports for physical activity.

Baseline

Data source to be determined

Rationale

Environmental supports that encourage physical activity can include workplace programs, worksite policies, on-site facilities and benefits packages.

Evidence Base

Research shows that worksite programs that provide both physical activity and nutrition programs are effective in the short term for weight management. However, retention in these programs and long-term results are not ideal. By combining physical activity and nutrition programming with policies, facilities, and benefits that alter the environment to support individual behavior change, these programs may be even more effective.

Who Recommends It

The National Association for Health and Fitness and the American College of Sports Medicine support worksite wellness as a way to promote physical activity.

Physical Activity in Worksites...

...Ideas for Implementation

- Policies allowing extended breaks for physical activity
- Walk to Work Wednesdays
- Active commuting program with parking buy back or discounted bus passes
- On Site Fitness center or classes
- Walking Clubs
- Bike racks
- Walking Meetings Policy
- Fitness center reimbursement
- Incentive programs (stair climbing challenge, casual dress for active commuting)
- Growing Stronger Program
- Walking trails

Physical Activity in Healthcare

Physical Activity Counseling and Referral

Objective 3.12

By _____, ____% of healthcare providers will routinely track Body Mass Index and follow evidence-based guidelines for physical activity counseling and referral.

Baseline

Data source to be determined

Rationale

As mentioned previously, it is essential that obesity prevention, including physical activity counseling and referral, become a routine part of preventive care.

Who Recommends It

The Surgeon General, the Institute of Medicine, the American Academy of Pediatrics, the Centers for Disease Control and the Surgeon General recommend that all health care providers routinely track Body Mass Index and offer relevant, evidence-based counseling.

Health Insurance Coverage

Objective 3.13

By _____, ____% of health insurance plans will cover physical activity programs.

Baseline

Data source to be determined

Rationale

Adequate insurance coverage is necessary to increase access to physical activity programs.

Who Recommends It

The Institute of Medicine recommends that healthy insurers, health plans and quality-improvement and accrediting organizations should designate obesity prevention as a priority health promotion issue.

Physical Activity in Healthcare...

...Ideas for Implementation

- Physical Activity Component in medical school training
- CME Brown Bag Lunch Series
- Physical activity resource guide so physicians can refer patients to community resources

Screen Time Objectives

Objective 4

By 2010, __% of adolescents and children will spend two or fewer hours per day in front of a screen (TV, video, videogames).

Baseline

Data source to be determined

Rationale

Screen time contributes to obesity by displacing physical activity, decreasing metabolic rate, and encouraging excessive caloric consumption. Reducing screen time has the potential to affect energy imbalance. Studies indicate that American children spend more time watching television than they do in any other activity except sleeping. The 1000 plus hours a year the average child spends in front of a screen displaces other more productive activities – physical activity, reading, time with family and friends, and more. Because screen time is the most common form of sedentary behavior, making even small reductions in the time spent this way can result in large public health gains.

Evidence Base

Reducing screen time supports the fight against overweight and obesity. Dr. William Dietz, Director of the Division of Nutrition and Physical Activity at the CDC, called television reduction “the most effective measure in reducing weight gain.” Intervention studies focused on reducing screen time have shown reductions in BMI, weight gain, body composition, and increases in physical activity in children. One study showed that children who limited their screen time to no more than 7 hours per week decreased their BMI and body fat percentage, without additional prompting to be more physically active. Another study showed that children who agreed to not engage in any screen time for one week had about 109 extra screen-free minutes per day and participated in 4.3 different leisure time activities. Children who did not limit their screen time spent 22 more minutes per day in front of a screen and engaged in only three different leisure time activities.

Who Recommends It

Research, conducted over the last 20 years, indicates that excessive screen time promotes overweight and obesity, encourages violent and antisocial behaviors, fosters attention deficit difficulties, and undermines the development of healthy children. It is for these reasons that the American Academy of Pediatrics (AAP), the Institute of Medicine (IOM), and the Surgeon General recommend that children and adolescents watch no more than two hours of television per day, and Healthy People 2010 have identified reducing screen time as a priority.

Screen Time in Schools & Childcare

Screen Time Education

Objective 4.1

By _____, ____% of schools will incorporate screen time education into the core curriculum.

Baseline

Data source to be determined

Rationale & Evidence Base

The studies reviewed by the Task Force for Community Preventive Services suggest some benefits from classroom-based screen time interventions at increasing physical activity levels. Body fat, body composition, and rates of obesity decreased among participants according to some measures, despite inconsistent measures of increased physical activity. The reason for this may be that reduced screen time resulted in a decrease in calorie consumption.

Who Recommends It

The CDC's *Resource Guide for Nutrition and Physical Activity Interventions to Prevent Obesity and Other Chronic Diseases* suggests media literacy training, curriculum-based approaches, and interventions targeting both parents and children in an effort to reduce TV time. IOM recommends school based interventions to reduce screen time.

Before- and After-School Programs

Objective 4.2

By _____, ____% of before- and after-school programs will promote reduced screen time.

Baseline

Data source to be determined

Rationale

Although there are no studies of screen time interventions in the before or after school setting, these venues are well situated to address screen time. Before and after school programs often include time for recreational computer use and movies. By limiting these activities, programs can affect the amount of time children spend in front of a screen. Additionally, before and after school programs can incorporate education and incentives similar to those in school-based screen time reduction programs that reach both children and parents.

Who Recommends It

The CDC's *Resource Guide for Nutrition and Physical Activity Interventions to Prevent Obesity and Other Chronic Diseases* suggests media literacy training, curriculum-based approaches, and interventions targeting both parents and children in an effort to reduce TV time. TV Turnoff Network encourages extended hours programs to strictly limit their use of screen media and become advocates for less television in children's lives.

Childcare Programs**Objective 4.3**

By _____, ____% of childcare programs will promote reduced screen time.

Baseline

Data source to be determined

Rationale & Evidence Base

A study of 2-5 year olds found that a brief television reduction intervention in the childcare setting resulted in an average decrease of 3 hours per week in the intervention group, while children in the control group increased their TV viewing by 1.6 hrs per week. While this is the only screen time reduction study in this setting, it shows promise for child care as a venue for screen time intervention. In addition to education and parental involvement, childcare centers can limit the amount of time they allow children in front of a screen while in their care.

Who Recommends It

The CDC's *Resource Guide for Nutrition and Physical Activity Interventions to Prevent Obesity and Other Chronic Diseases* suggests media literacy training, curriculum-based approaches, and interventions targeting both parents and children in an effort to reduce TV time. TV Turnoff Network encourages child care centers to strictly limit use of screen media and become advocates for less TV in children's lives.

Screen Time in Schools & Childcare...***...Ideas for Implementation***

- Planet Health Curriculum
- Parent TV Turnoff Challenge
- Student Developed TV Turnoff Campaign
- TV Turnoff Week

Screen Time in Communities

Objective 4.4

By _____, ____% of community-based organizations will promote reduced screen time.

Baseline

Data source to be determined

Rationale

There are presently no published screen time reduction interventions in community based organizations. However, community-based organizations have successfully promoted other health issues. Their wide reach, acceptability, and connection to the community make them a promising venue to educate community members about screen time. CBOs also provide a safe location for children to engage in activities outside of school. In addition, CBOs can limit recreational screen time at their programs to further impact the amount of time both children and adults spend in front of a screen.

Who Recommends It

CDC suggests providing safe and engaging activities for children to do in place of TV watching and encouraging parents to change their own screen time behavior. TV Turnoff Network encourages that public gathering places limit TV time.

Screen Time in Communities...

- TV Turnoff Week
- Evening Family Activities

...Ideas for Implementation

Screen Time in Worksites

Objective 4.5

By _____, ____% of worksites will promote reduced screen time.

Baseline

Data source to be determined

Rationale & Evidence Base

There is evidence that weight control interventions that focus on parents rather than children are more effective than interventions that only focus on directly changing the child's behaviors. This evidence demonstrates that targeting parents with screen time reduction interventions may have a significant impact on their child's behavior. Worksites are an ideal venue to reach parents, since they are where many parents spend the majority of their time.

Who Recommends It

CDC's *Resource Guide for Nutrition and Physical Activity Interventions to Prevent Obesity and Other Chronic Diseases* suggests interventions that teach parents skills they need to be effective at changing their own and their child's behavior.

Screen Time in Worksites...

...Ideas for Implementation

- Employee TV Turnoff Incentive (TV Challenge)

Screen Time in Healthcare

Objective 4.6 By _____, ____% of healthcare providers will provide screen time counseling.

Baseline

Data source to be determined

Rationale & Evidence Base

A recent study found that physician counseling reduced television viewing time in a sample of children, demonstrating that health care providers have the potential to reduce children's screen time. In addition, HCPs can counsel parents about their own and their child's screen time behaviors. Counseling adults as part of risk reduction could prove to be useful in changing adults viewing behavior and in helping them reduce their children's TV time.

Who Recommends It

The American Academy of Pediatrics recommends counseling to reduce television viewing a routine part of health supervision for all children.

Screen time in Healthcare...

- Use Media Matters Campaign (AAP)
- Brown Bag Lunches
- Online CME training about screen time and effective counseling

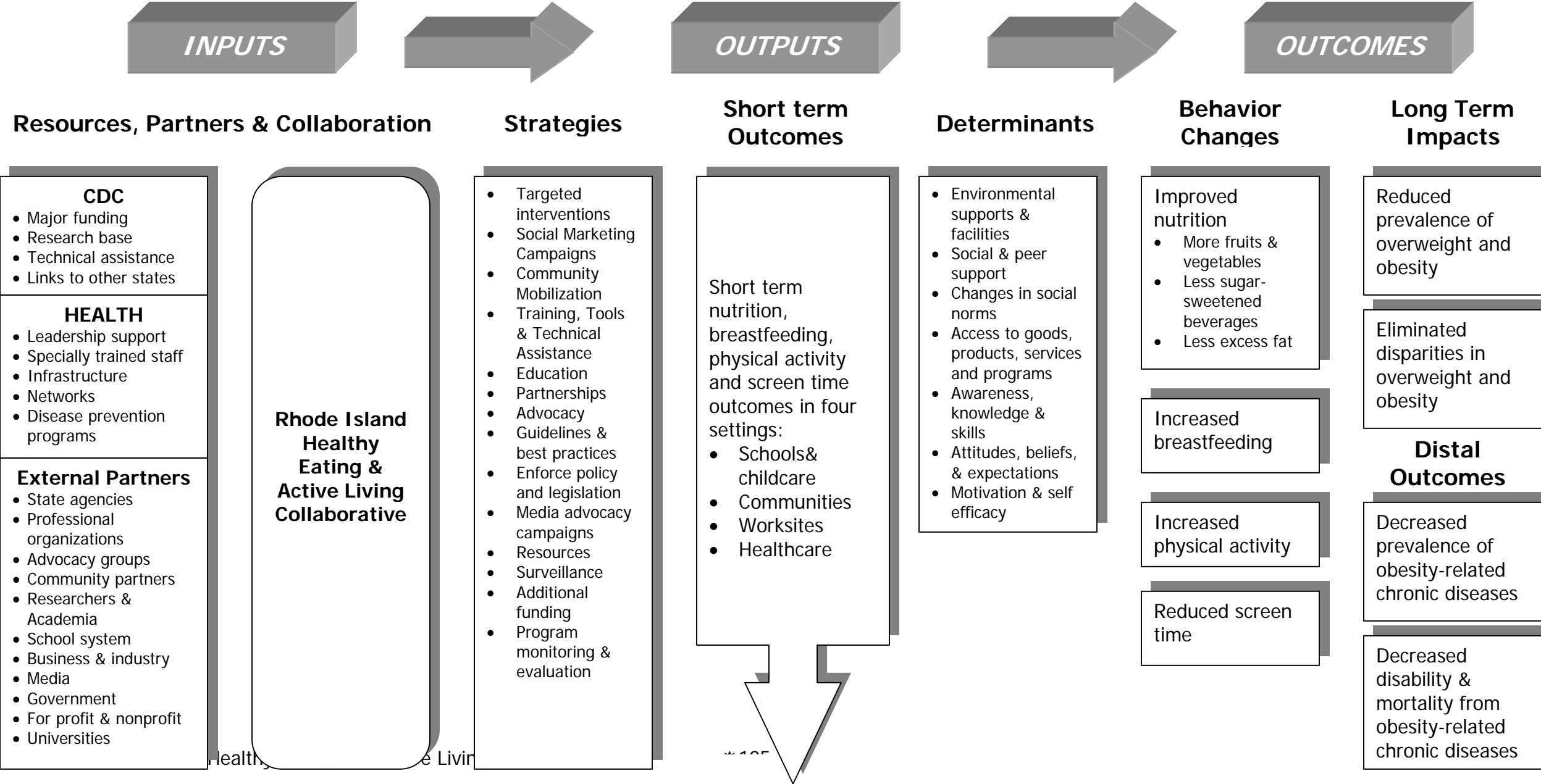
...Ideas for Implementation

Pulling it all together

The following logic model (Figure 26) illustrates how partners will work together to achieve behavior change through short-term changes in individual knowledge and skills, environmental changes and policy initiatives.

Rhode Island’s Plan for Healthy Eating & Active Living

LOGIC MODEL



	Nutrition	Breastfeeding	Physical Activity	Screen time
Schools & Childcare	<ul style="list-style-type: none"> Nutritious meals in schools & childcare Time for students to eat Fruits & vegetables in schools Nutritional standards for all foods in schools & childcare Nutrition education in schools & childcare Healthy food & nutrition information in before- and after-school programs Nutrition education for school staff, school families, & childcare parents 	<ul style="list-style-type: none"> Breastfeeding education in school curriculum Policies & environments support breastfeeding mothers in childcare Childcare staff provide basic breastfeeding support & referral 	<ul style="list-style-type: none"> Structured physical education in schools Recess in elementary schools Physical activity in before- & after-school programs & childcare Opportunities for families & staff to be physically active. Safe Routes to School programs 	<ul style="list-style-type: none"> Screen time education in school curriculum Limited screen time in before- & after-school programs & childcare
Communities	<ul style="list-style-type: none"> Hands-on, healthy eating learning opportunities in community-based organizations Farmers' markets & community garden programs Low-cost, high-quality fruits & vegetables in community markets Healthy food options & point-of-purchase nutrition information in full-service & fast food restaurants 	<ul style="list-style-type: none"> Breast pump distribution programs Peer support programs 	<ul style="list-style-type: none"> Opportunities for physical activity in community-based organizations New & revitalized parks, trails, & recreational facilities Comprehensive plans & land management systems that support physical activity 	<ul style="list-style-type: none"> Limited screen time in community-based organizations
Worksites	<ul style="list-style-type: none"> Healthy food options & point-of-purchase nutrition information for employees Fruit & vegetable initiatives. 	<ul style="list-style-type: none"> Policies, programs & environments that support breastfeeding mothers Benefit plans with enhanced maternity leave & lactation benefits 	<ul style="list-style-type: none"> Opportunities to be physically active On-site facilities & environmental supports for physical activity 	<ul style="list-style-type: none"> Screen time information
Healthcare	<ul style="list-style-type: none"> Healthcare providers track Body Mass Index Healthcare providers follow evidence-based guidelines for nutrition counseling & referral Health insurance coverage for nutrition counseling & weight management services 	<ul style="list-style-type: none"> Evidence-based maternity care practices in hospitals & maternity care facilities Healthcare providers provide breastfeeding counseling & referral Restricted marketing & distribution of infant formula Health insurance coverage for breastfeeding support services & equipment 	<ul style="list-style-type: none"> Healthcare providers track Body Mass Index Healthcare providers follow evidence-based guidelines for physical activity counseling & referral Health insurance coverage for physical activity programs 	<ul style="list-style-type: none"> Healthcare providers provide screen time counseling.

VII. The How

Looking Back, Moving Forward

A leader is someone who steps back from the entire system and tries to build a more collaborative, more innovative system that will work over the long term.

—Robert Reich

No one individual or organization can accomplish the multi-level, multi-channel goals and objectives set out in this plan. It is clear that effective implementation in Rhode Island requires everyone to work together at the national, state and local level. The Rhode Island Department of Health (HEALTH) is eager to lead state partners in controlling the obesity epidemic. The plan is a guide, and it is up to all Rhode Islanders to move these objectives forward. To do so, Rhode Island must build on the many existing efforts and create a forum for statewide collaboration and action.

A Foundation of Existing Efforts

The rapid rise in obesity has brought everyone's attention to this threat to the health and well being of Rhode Islanders, and there are many individuals and organizations already committed to the work delineated in this plan. With more communication and coordination among various groups, there is great potential to succeed, particularly when science informs action. Sharing experiences and resources among those working toward the same end has been a positive outcome of this planning process. This coordinated focus on obesity will generate the resources and involvement of all our leaders that is needed to reduce the prevalence of overweight and obesity. This plan provides an initial framework for this effort, and action plans based on these objectives will be important to keep everyone moving in the right direction over the next decade.

HEALTH's Initiative for a Healthy Weight

HEALTH initiated this plan, with the support of its Initiative for a Healthy Weight program (IHW). The achievements of IHW have been recognized statewide, nationally, and internationally since the program's establishment. As one of the first six states funded by CDC to build capacity to combat obesity, the program developed a coalition of state partners, reviewed existing data and developed a new surveillance instrument for schools, provided training to partners, and supported interventions which serve as models for the more comprehensive approaches now being developed. Table 19 lists some of the major accomplishments to date.

Table 19. Initiative for a Healthy Weight's accomplishments, 2000-2004

2000	CDC Funding: CDC funded six states to develop capacity, including a state plan, to address obesity. Initial RI staff included the principal investigator, program manager, epidemiologist and program assistant.
2001-2002	Assessment of School Policies, Programs and Environments: The RI Needs Assessment Tool (RINAT) monitored existing programs, policies, and environmental supports for nutrition and physical activity in elementary schools.
2001-2003	Obesity Planning Council (OPC): Over 90 organizations and individuals participated in the OPC to develop recommendations to address obesity in Rhode Island.
2001-2003	RI Physical Education Standards: With RIAHPERD and school partners, HEALTH developed the <i>Rhode Island Physical Education Framework</i> (http://www.riahperd.org/peframeworks.html).
2002	Input from Leaders in Racial and Ethnic Minority Communities: Leaders unable to participate in the OPC planning process provided input on the plan via a statewide forum.
2002	Health Policy Brief: IHW published <i>The Rhode Island Obesity Epidemic: Health Consequences for Children and Adults</i> .
2002	World Health Day Award: The World Health Organization recognized Rhode Island for its leadership in implementing and evaluating a strategic planning process.
2002-2003	National Network to Improve Surveillance of Obesity and Related Chronic Diseases: The epidemiologist participated in a review of national data sets on obesity and related diseases that produced recommendations for improving surveillance.
2002-2004	RI Healthy Schools Coalition: This coalition, part of the national Action for Healthy Kids initiative, grew out of the primary recommendations from the schools subgroup of the OPC, and has moved the policy agenda forward in schools and school districts throughout the state.
2002-2004	NECON Strategic Plan for the Prevention of Overweight and Obesity in New England: IHW staff collaborated with regional partners to develop this regional plan.

	(http://www.neconinfo.org/docs/Strategic%20Plan%2002-11-03.pdf)
2002-2004	School Policy Initiative: In collaboration with Kids First, IHW developed a program to support development of policies for healthy eating and physical activity in four elementary schools serving low-income Hispanic students.
2003	Physical Activity Specialist: A designated physical activity specialist was added to the IHW staff.
2003-2004	Nutrition and Physical Activity Workshops: IHW co-sponsored sessions on interventions and evaluation, led by experts from RI universities with the Nutrition Council of Rhode Island.
2003-2004	Mini grants: IHW funded and evaluated small grants to five programs that implemented recommendations from the draft state plan. (See below.)
2003-2004	Rhode Island Hospital: The Pediatric Primary Care Clinic, Memorial Hospital's Family Medicine Clinic, and St. Joseph's Hospital Pediatric Clinic developed and implemented an obesity curriculum for pediatric health care providers, which has led to the formation of a pediatric obesity treatment clinic.
2003-2004	South Providence Neighborhood Ministries: SPNM was supported to work with a community coalition to expand physical activity in their inner city, largely Hispanic population through on-going walking clubs and exercise programs.
2003-2004	The Rhode Island Alliance of Boys and Girls Clubs: The clubs were supported to implement and evaluate a nationally recognized, comprehensive wellness program for youth ages 6-13, in after-school and summer activities.
2003-2004	Thundermist Health Associates Incorporated: -This health center was supported to expand counseling, comprehensive nutrition and physical activity programs, a walking club, and advocacy efforts in all public schools in Woonsocket, RI.
2003-2004	Worksite Wellness Council of Rhode Island (WWCRI): The WWCRI was supported to inform employers of the costs of obesity and communicate return-on-investment data for worksite prevention and treatment strategies.
2004	CDC Funding: IHW received a new four-year award to support the state's planning and capacity building.
2004	Nutrition Specialist: A nutrition specialist was added to the team to increase IHW's capacity to support prevention.
2004	The Burden of Obesity in Rhode Island: Completed a web-based document summarizing data from multiple sources on the prevalence of overweight/obesity, nutrition, physical activity, breastfeeding and obesity-related diseases.

Other Programs in HEALTH

As IHW develops the CDC-mandated building blocks for a supportive state infrastructure, several synergistic developments in HEALTH have been elevating the priority for obesity prevention in Rhode Island. The first of these is that obesity was selected as one of ten priority areas in **Healthy Rhode Island 2010** (<http://www.health.ri.gov/hri2010/index.php>), and it was one of eight priorities identified in HEALTH's strategic plan. These events ensured that the commitment to address obesity extends throughout HEALTH, particularly drawing on the Healthy People 2010 program and the Rhode to Health Coalition of hospitals committed to actions to increase physical activity and healthy eating.

Most recently, Dr. David Gifford, who was confirmed as Director of Health in May 2005, identified childhood obesity as one of four key areas for "doing public health better" (www.health.ri.gov/publications/pubhspring05.pdf) and identified a "champion" to lead action planning forward. Leadership from the Director's Office, the Executive Committee and Division of Family Health are added resources to preventing obesity among Rhode Islanders.

This broad-based support from HEALTH is moving the plan ahead and led to specific collaborative efforts with other HEALTH programs even before the priority was identified:

- The Healthy Schools! Healthy Kids! program partnered by co-chairing a workgroup that identified screen time strategies.
- The Safe Rhode Island Program collaborates on bicycle and pedestrian initiatives, including Safe Routes to School, and convened the RI Bicycle and Pedestrian Safety Collaborative.
- The Worksite Wellness Program supports the state employees Farmer's Market and other nutrition and physical activity programs for state employees.
- The Chronic Disease Prevention Program Integration initiative developed synergistic messages for physical activity and nutrition to be disseminated through HEALTH programs.
- The Office of Minority Health funded obesity prevention initiatives in the states community-based Minority Health Promotion Centers.

External Collaborators

Awareness of obesity as a problem has been growing among Rhode Island leaders in recent years. In 2001, State legislators and HEALTH staff joined their New England peers for a meeting sponsored by the National Council of State and Legislators; there they identified obesity as a priority for the state. The Rhode Island Public Health Association also named obesity prevention as an advocacy priority in 2001 and continues to champion this cause. With RIPHA leadership, both houses of the General Assembly passed resolutions in Spring 2002 identifying the public health impact of obesity. The RI Senate convened a Commission in winter 2004, chaired by Senator Elizabeth Roberts, to examine policy issues for childhood obesity prevention.

The RI Healthy Schools Coalition, part of the national Action for Healthy Kids Coalition, was an outgrowth of planning done by IHW's Planning Council. Since 2003, the Coalition has brought together many constituents to work at the school, district and state levels to advocate for policies and programs to support good nutrition and physical activity, including collaborating with the RI Superintendents' Association and the RI Association of School Principals to complete a model district nutrition and physical activity policy. The Coalition's Healthy Vending Committee is developing a set of vending guidelines for schools to use as model policies to reduce unhealthy foods in their environments.

The Worksite Wellness Council of Rhode Island (WWCRI) has brought leaders from throughout the state to commit to expanding physical activity and healthy eating opportunities for their employees, and the Governor himself has made worksite wellness a priority for the state. The Get Fit RI! Program is focused on state employees and provides support to departments to develop programs. WWCRI has developed resource materials and provided training for a number of worksites interested in promoting these healthy behaviors.

Develop and implement work place programs to support their employees in healthy behaviors. This Council has set a clear goal of disseminating programs statewide, making Rhode Island the

first official “Well State” drawing on the definition for “Well Cities” of the Worksite Wellness Council of America (WELCOA <http://www.welcoa.org/wellworkplace/index.php?category=6>).

The partnership with the New England Coalition for Health Promotion and Chronic Disease Prevention (NECON) is an excellent example of key partnerships that are working in Rhode Island (NECON) is supporting the initial state action planning efforts through a retreat of the newly identified steering committee in January 2006 to launch this plan and review and approve the first year’s priority action plans. NECON leadership recognizes the synergy between their plan, created with regional input, and this plan tailored to Rhode Island’s needs. Rather than implementing each plan independently, the work will be woven together seamlessly so that Rhode Island partners do not have to sign on to one initiative over the other, but can work towards the common mission of each: to reduce the prevalence of obesity.

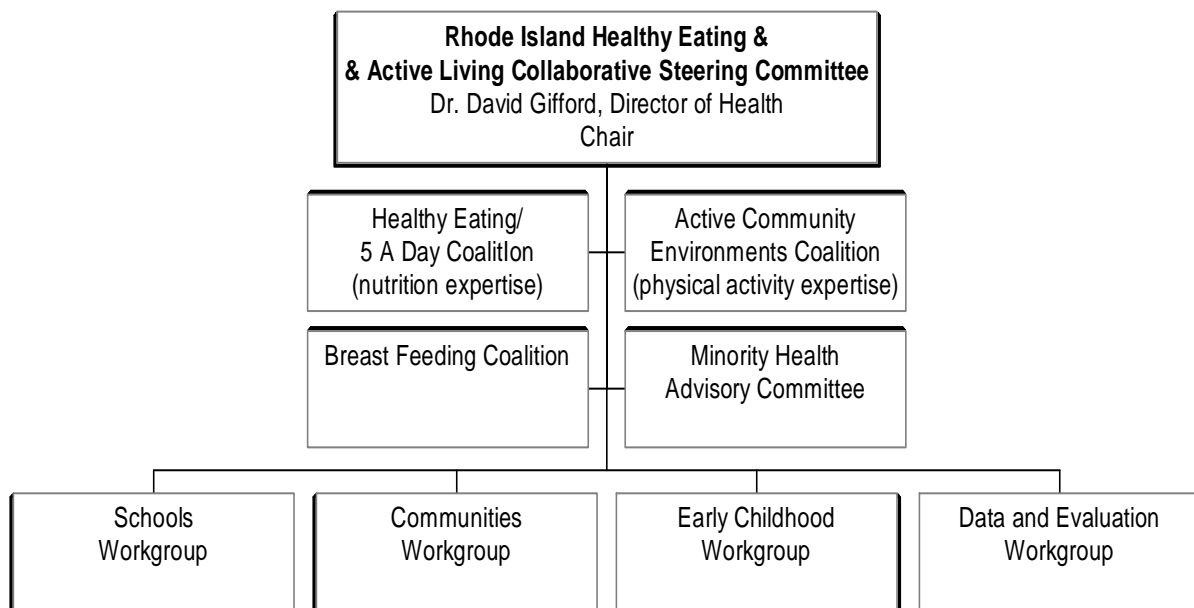
The IHW funding source, the CDC Division of Nutrition and Physical Activity (DNPA) is another key collaborator for Rhode Island. Regular communication and resources from them supports the state with technical assistance and training on the most up-to-date information on data, evidence based and proven effective interventions, and model programs. Through DNPA, Rhode Island is linked to a network of states that are addressing the obesity problem.

A Model for Collaboration & Action

Even with such exciting programs and initiatives to build on, Rhode Island's fight against obesity needs an infrastructure to bring organizations and individuals together to learn from each other and work together. An undertaking, such as the one presented in this plan, requires broad partnerships and collaboration across the state.

To facilitate building an infrastructure that supports nutrition and physical activity initiatives, HEALTH, in collaboration with NECON, is convening concerned Rhode Islanders to form a statewide Healthy Eating and Active Living Collaborative (Figure 27). The Collaborative is the vehicle to move obesity prevention forward in Rhode Island, and through it, those interested in improving Rhode Islanders' dietary habits and increasing their physical activity levels can work together, avoid duplicating each other's efforts, and create synergy among individual efforts. The Collaborative will extend and sustain the network of individuals already involved in obesity prevention and create new and innovative partnerships across diverse sectors of the state.

Figure 27. Rhode Island Healthy Eating & Active Living Collaborative infrastructure



Infrastructure

Components of the Collaborative include the Steering Committee, chaired by Director of Health Dr. David Gifford. Members of this group include leaders from various sectors in Rhode Island who have the vision and command the resources to implement the plan. This group will recommend the vision and mission of the collaborative, establish the infrastructure for effective work, and ensure that the collaborative progresses towards fulfilling the goals and objectives of this plan. The Director of Health has determined that the prevention of childhood obesity will be an initial priority of the Collaborative.

HEALTH staff supports several permanent advisory groups, organized around topic area with professional expertise to in issues that underlie obesity prevention.

- The Healthy Eating/5 A Day Coalition is supported by the Initiative for a Healthy Weight Nutrition Specialist and is a forum for people with specific interest and expertise in nutrition issues.
- The Active Community Environments Coalition is supported by the Initiative for a Healthy Weight Physical Activity Specialist and is a forum for people with specific interest and expertise in physical activity promotion and community design.
- The Rhode Island Breastfeeding Coalition is supported by the Division of Family Health and brings together breastfeeding advocates.
- The Minority Health Advisory Committee is a long-standing arm of the Office of Minority Health to advise the Department on eliminating racial and ethnic health disparities.

These groups provide technical assistance and resources for the collaborative as a whole, the workgroups, and communities throughout the state. In addition, other existing statewide coalitions and organizations, such as the Healthy Schools Coalition, the Worksite Wellness Council of Rhode Island, and the Rhode Island Safe Kids Bike and Pedestrian Collaborative already promote many of the goals and objectives of the Healthy Eating and Active Living Collaborative and provide technical assistance and support in their focal areas.

Supported by HEALTH staff and chaired by community leaders, workgroups are organized around the immediate priorities set by the Collaborative. With the identification of the initial childhood priority, community input identified four initial workgroups that are focusing on communities, schools, early childhood, and evaluation. Other workgroups for other priorities drawn from the plan will be formed as new needs become apparent or new priorities are added. The output of these workgroups will be action plans with specifically designated lead, partners and resources, tools kits to support action, and monitoring of action plan implementation.

Strategies for Action

The Healthy Eating and Active Living Collaborative will lead Rhode Island in achieving the objectives in this state plan, starting with the initial childhood priority and moving on to address obesity issues throughout the lifespan. Led by the Steering Committee, collaborative members will identify initial priorities and develop action plans with specific, measurable, achievable, realistic and time framed (“SMART”) objectives and specific strategies and action steps.

Throughout the Solutions section, the short-term objectives are framed as SMART, without specific dates and targets filled in. This is because the completion of those targets needs to be completed in short term action plans with the input of our community partners who are taking on the work of the plan. It is the responsibility of the Department of Health to regularly convene those partners to do that action planning. This is because the success in meeting those objectives only comes with the full involvement and support of a wide variety of individuals, organizations and communities, as well as the effective coordination of efforts targeting various segments of the state population.

Well-tested approaches in changing the health behaviors of populations are also essential for success. Based on the science, RI data, and collective knowledge, collaborative members will design, implement and evaluate interventions. To ensure effectiveness, Collaborative members will implement strategies that involve the target audiences in the planning, strategizing and implementation of interventions. This is called “Social Marketing,” an approach that uses marketing principles to incorporate audience perspectives into behavior change campaigns.

To this end, part of the Collaborative’s charge is to involve community members in obesity prevention efforts. Collaborative workgroups and advisory coalitions will engage community members, support existing community groups and help to form community coalitions to support multi-level interventions in the state’s cities and towns. With the support of HEALTH staff, the Collaborative will provide technical assistance, tools, and training to groups throughout the state to guide obesity prevention efforts. As part of this two-way partnership, community coalitions will be given a voice to advise on statewide interventions, as well as decide what community-level interventions will be effective in their own cities and towns.

Traditional advocacy approaches, as well as media advocacy (the strategic use of media as a resource for advancing a social or public policy initiative) will be used to move the policy agenda forward at state and local levels. The Collaborative will use unpaid media to reinforce the media advocacy campaign and achieve awareness and education objectives.

In addition to specific interventions and community coalitions, the Collaborative will advocating for statewide policy and environmental changes. Once these policy changes are achieved, the Collaborative will develop strategies to ensure that supportive policies are implemented effectively.

The Collaborative’s work will be reinforced through clear, effective, two-way communication. The role of communication in collaboratives is essential. Communication among partners, communication to the public, communication to the media, communication to specific target audiences – all messages must be consistent and reinforce one another. Communications infrastructure has already been established through IHW and will be broadened using other communication systems in HEALTH and other partner organizations.

Resource development for outside partners is also an explicit strategy that HEALTH will bring to the issue of obesity, in recognition that there are only limited dedicated obesity prevention resources in Rhode Island. HEALTH staff and partners will actively pursue potential funding from public and private sources to support efforts to implement plan objectives.

As emphasized throughout this plan, others who have worked and studied in obesity prevention will inform all strategies--though published results of interventions and guidelines. Conversely, Rhode Island will try to share results of our interventions whenever possible, through conference presentations and published articles.

Selecting Priorities

This plan, intended to guide Rhode Island at least until 2012, covers many objectives in four major behavior changes, four channels for intervention, with many populations to address. There are identified racial and ethnic populations, age groups socio economic strata and other specific ways that objectives are targeted. It is clear that even all the devoted partners in Rhode Island cannot accomplish everything in the short term. Periodic priority setting will focus energy toward accomplishment a selected group of targeted priority objectives. They will be selected based on feasibility, access to resources, political viability and commitment of partners at the particular point in time when they are chosen

Some priorities will undoubtedly be constant throughout the period that the plan covers. Since there is a substantial body of research showing that overweight and obesity occur at higher rates in racial and ethnic minority populations, as well as women and persons of low socioeconomic status, these are priority populations for this plan.

With the growth over the past two decades of Rhode Island's Hispanic population projected to continue, the state faces many challenges in reversing the upward trends in overweight and obesity, and that ethnic group is the plan's most important priority racial/ethnic population. IHW has identified Hispanic families in Central Falls as a priority population for their targeted intervention, for which CDC categorical funds will be requested.

As the work to address the needs of Rhode Island's children gets established, the advisory coalitions may identify other priorities, and the Healthy Eating and Active Living Collaborative will meet annually to assess progress and set new priorities. The reach (how many people will be affected), the magnitude of the impact, the political climate, and the human and financial resources needed and available for the priority all will be criteria will to choose annual priorities from among the plan's objectives.

On-going process evaluation of interventions targeted to priorities will also inform the Collaborative and enable them to adjust priorities in coming years.

Evaluation of the Plan

As is clear throughout this document, an overarching principle is that science will always inform the development and implementation of interventions to reduce and prevent obesity among Rhode Islanders. An overview of that science has been provided in earlier sections of this plan. This commitment leads to a clear commitment to use specific information about the RI population to target programs to populations where the need is greatest, and HEALTH staff will provide on-going technical assistance the current literature informing obesity prevention and disseminate best practice models to our partners.

The other important use of science is evaluation, which is a necessary component of all implementation activities to reverse current trends in overweight and obesity. The goal of the evaluation is to ensure that objectives and related activities described in the state plan are implemented as planned, that outcomes correlate to state plan objectives, that activities impact identified priority populations and that the long term objectives are accomplished:

- I. By 2012, reduce the proportion of adults who are overweight or obese (BMI > 25) to ____%.
- II. By 2012, reduce the proportion of adolescents and children who are overweight or at risk of overweight (BMI > the 85th percentile CDC Growth Charts) to ____%.
- III. By 2012, eliminate racial and ethnic disparities in overweight and obesity.

As part of the Healthy Eating and Active Living Collaborative, an evaluation workgroup for childhood obesity has been established, consisting of representatives from work groups, researchers, and HEALTH epidemiology staff. This group together will oversee evaluation activities. IHW staff and staff from the Brown University Institute for Community Health Promotion will develop a separate evaluation plan for Obesity Prevention in Rhode Island with the advice of the workgroup. Although methods of evaluation and types of data will vary depending on the specific activity, the following evaluation strategies will be used alone or in combination:

- Formative evaluation, including needs assessments, will determine what is available and what is needed in the community.
- Process evaluation will assess how well state plan objectives are being met and suggest adjustments in activities and expected outcomes.
- Outcome evaluation will assess if state plan activities have impact and will measure the effects of intervention activities.

For example, an evaluation of school-wide policies for physical activity and healthy eating might include all three evaluation strategies. A needs assessment survey could determine how many RI public schools have specific policies in place to support healthy eating and physical activity and barriers to implementing such policies. Process evaluation could monitor how schools develop and implement policies for nutrition and physical activity. Outcome evaluation could determine if there was a change in the percentage of students who choose healthy food options at school

meals or participate in after-school physical activity programs before and after a school-wide policy for healthy eating or physical activity is implemented.

Not all individual state plan objectives will be evaluated at all three levels, given constraints of time, resources, and staffing. Long-term and intermediate objectives will be tracked, and short term objectives will have, at the least, process evaluations so that what activities were performed can be tracked. Efforts will be made to fully evaluate state plan activities whenever feasible. Pilot interventions, such as the funded intervention in Central Falls, proposed in the state plan and implemented in the community will have formal evaluation plans, encompassing all three levels of evaluation, to prepare for other applications of the interventions and future dissemination of best practices.

Data

Accurate data are needed to guide the formation of state plan objectives and to assess the success of state plan activities. Progress toward the objectives and strategies outlined in the state plan will be measured by monitoring various data points related to the prevalence of chronic disease and obesity. There are a number of data sources that supply on going information to track the prevalence of obesity, its underlying risk behaviors and the health consequences. Some of these data sources provide only national data and others allow us to look specifically at the health of Rhode Islanders. A few even allow tracking at the regional or municipal levels. The following information comes from RI data.

Overweight/obesity. Rhode Island uses several data sources to calculate overweight and obesity from heights and weights. In the RI BRFSS and RI YRBS, overweight and obesity are calculated from self-reported heights and weights. In the RI HIS, overweight and obesity are calculated from proxy-reported heights and weights. Clinical height and weight measurements are used to calculate overweight and obesity for women and children up to age 5 enrolled in the RI WIC program.

Poor nutrition. Rhode Island uses three data sources to measure poor nutrition, which is defined as not eating five fruits and vegetables a day. In the RI BRFSS and RI YRBS responses to six dietary questions are used to construct a summary index of fruit and vegetable consumption. The time frame for adolescents (YRBS) is the past 7 days. The time frame for adults (BRFSS) is per day, per week, per month, or per year. Consumption of five fruits and vegetables a day is used to measure nutritional risk for women and children up to age 5 enrolled in the RI WIC program.

Physical inactivity. Rhode Island uses two data sources to measure physical inactivity. For adults (BRFSS), physical inactivity is a “no” response to the question: *During the past month, other than your regular job, did you participate in any physical activities?* For adolescents, we measure physical inactivity as not doing any moderate exercise or physical activity for at least 20 minutes on 5 of the past 7 days or not doing any vigorous exercise or physical activity for at least 30 minutes on 3 of the past 7 days.

Breastfeeding. Information on mothers' breastfeeding practices comes from the RI PRAMS and RI WIC Program data.

Chronic diseases. Rhode Island uses several data sources to track chronic diseases associated with overweight/obesity. Data on the self-reported prevalence of high blood pressure, high blood cholesterol, type 2 diabetes, heart disease, stroke, and asthma come from the RI BRFSS and RI HIS. RI hospital discharge and mortality data include fields for diabetes, hypertension, heart disease, and stroke—conditions associated with being overweight or obese. RI mortality data also has fields for cancers that research has shown are associated with obesity. These include postmenopausal breast cancer and cancers of the gallbladder, colon, endometrium, kidney, esophagus, ovary, and pancreas.

Specific surveillance activities are already in place to assess progress on these indicators (Appendix D). HEALTH issues a periodic report on ***The Burden of Overweight and Obesity in Rhode Island***. This report presents the most recent state data on overweight and obesity. Data show the proportion of children and adults who are overweight or obese, the factors important for prevention of weight gain and improvement in health and quality of life, and health outcomes related to overweight and obesity. Data come from the RI Behavioral Risk Factor Surveillance Survey (RI BRFSS), RI Youth Risk Behavior System (RI YRBSS), RI Women, Infants and Children (WIC) Program Data, RI Immunization Validation Survey (IVS), RI Pregnancy Risk Assessment Survey (PRAMS), RI Hospital Discharge Data (RI HDD), Death Records (RI Vital Records).

Over time, change in behavioral outcomes and weight status will show progress toward Rhode Island's state plan objectives for the Initiative for Healthy Weight Program and suggest additional areas for interventions. Additional surveillance system indicators will be selected based on the feasibility of data gathering, the validity of the measures, and relevance to reducing the prevalence of obesity in Rhode Island.

VIII. The Conclusion

What's Next?

Unless commitment is made, there are only promises
and hopes...but no plans.

—Peter Drucker

As was described above in “A Model for Collaboration & Action,” this plan will be presented to policy makers, activists and program developers in communities and agencies across the state, and the Healthy Eating and Active Living Collaborative will lead the statewide efforts. But much of the work needs to be done at the community level. As understanding grows about the importance of policies that make it easier for individuals to eat well and be physically active, all Rhode Islanders will be supported in their healthy active lifestyles. Policy and environmental approaches will provide a foundation for slowing the rate of increase in obesity in the state. Those changes are not sufficient to make the behavior changes needed, and they will be complemented by new and ongoing efforts to provide each individual and family with the skills and knowledge they need to take advantage of nutrition and physical activity opportunities.

The first step to sustainable change in Rhode Island is to move beyond acknowledgement of obesity as a problem and get physical activity and nutrition issues on everyone’s agenda. This plan allows for specific priorities to be fluid and adaptable to the people’s and communities views of the problem. An initial priority, childhood obesity, has been set for HEALTH and key partners who have made commitments to that issue, and other groups may select other populations and objectives from the plan to work on in their communities. The local agenda must be the issue that each community sees as important. Getting issues into the minds of the public officials and policy makers often is a slow, iterative process. At the community level, groups may want to select specific issues, such as a Walk to School Program or a community garden, or advocate community-wide change for environments and policies that support physical activity and healthy eating. They can use the information provided in this plan and the technical assistance and resources identified to get started.

This plan will continue to evolve. Additional strategies will be identified and recommended as priorities when more conclusive scientific evidence becomes available to help support those strategies. Annual action plans developed by the collaborative for state level actions will identify the partners and steps needed to accomplish the objectives that are highest priorities, because of high levels of efficacy, commitment, feasibility, or all three.